

Wild Mile

Framework Vision



City of Chicago
Department of Planning and Development
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Skidmore, Owings & Merrill LLP | Omni Ecosystems
TetraTech | Urban Rivers | O-H Community Partners
Near North Unity Program | d'Escoto Inc.

Introduction

The Wild Mile is planned to be a mile-long, interactive and immersive floating eco-park located in the North Branch Canal and Turning Basin of the Chicago River. Situated between Goose Island and the Near North Side neighborhood, this stretch of river is a unique destination and an accessible community open space that promote habitat first and an outdoor educational amenity for all.

Also, the Wild Mile is a living laboratory for research, innovation, and conservation efforts in an urban environment. This new wildlife-first park will foster a strong community atmosphere based on education, arts and recreational opportunities, while providing an economically valuable draw for businesses, property owners and tourism.

The City of Chicago has initiated this planning process with the goals of supporting a wildlife habitat while creating one of the defining public open spaces for the modernization of the North Branch Industrial Corridor. The design and development of this document will establish a vision and principles for this new kind of park.

The Wild Mile Framework Vision provides the structure and tools for the Near North community to incrementally build the Wild Mile. It is their road map and their guiding principles which will ensure the Wild Mile remains part of their community.



Wild Mile

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Letter from Reverend Randall Blakey

The Near North Unity Program (NNUP) is proud to be a Community Partner in collaboration with the Wild Mile Project and all of its civic, private and community partners. As NNUP seeks to connect and convene residents and stakeholders in our diverse community, enhance its growth and improve the quality of life for all, becoming a primary collaborator on this project is a natural fit.

Over the years, the Chicago River in general and the North Branch Canal in particular, has served as points of connection for early settlers, trading posts and industry needing to move oversized goods throughout the city. Today, the Wild Mile Project seeks to remain consistent with the collaborative aspects of history by broadening river access and expanding future opportunity not only for the community but for wildlife and the natural habitat.

Our science partners tell us that we must create the environment that will attract the species we'd like to see. For this team, those species are not limited to wild life but includes human life as well. The Wild Mile will become a floating classroom for students, a gathering point for parents, a haven for naturalists and a place to relax for all. The following pages detail just how we plan to make our desires your reality.

Thank you! I look forward to seeing you on the Wild Mile!



01 Background + Context

1.1 What is the Wild Mile?

1.2 The Opportunity

1.3 A Community Vision



1.1 What is the Wild Mile?

Historical Context of Goose Island

The story of Goose Island is in many ways a thumbnail of Chicago's history: from the river's riparian wetland origins to the home of immigrant settlers digging clay for bricks to build the city's explosive growth – excavating until they created what become known as the North Branch Canal. The canal was dredged and made navigable, increasing industrial frontage. The Island's working-river docks unloaded lake-schooner's rafting timber down Lake Michigan to rebuild the city after the Great Fire.

Smokestack industrial development followed, as Chicago became a continental manufacturing center. The nation's railroad hub enabled Internet-type, long distance, mail-order retailing by Montgomery Ward and Sears Roebuck. Then came rust-belt decline, transitioning now to technology-driven innovation companies and loft residential in Ward's riverfront warehouses as well as mixed-use redevelopment, now the canal will be restored to the river wetland natural habitat that gave birth to a global city.

1904



Photo credits: Polish Heritage Research Group

1960



Photo credits: Chicago Architecture Center

North Branch Framework

The City of Chicago has led the renaissance of the Chicago River. A year-long, inclusive public engagement effort resulted in the North Branch Framework Plan (NBFP), a land use plan for the River between Kinzie Street and Fullerton Avenue that sets the vision for transforming a former industrial waterfront, by turning a neglected back yard into a vibrant neighborhood riverfront. The Wild Mile Framework Vision is a site-specific application of the adopted NBFP principles.

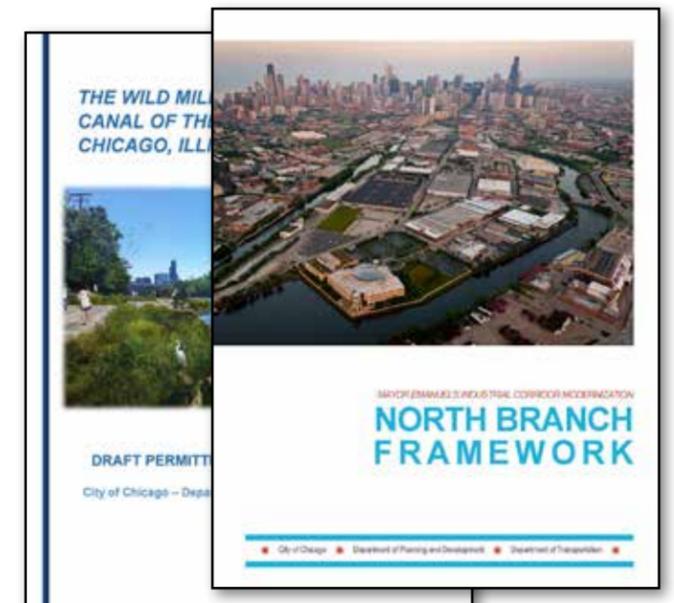
- Integrate a variety of open spaces
- Promote partnerships
- Coordinate educational, cultural & recreational programming
- Create a sense of place by responding to unique conditions
- Provide connections (floating boardwalk)
- Enhance and restore the riparian and emergent landscapes
- Improve water quality

The NBFP reiterated the vision of the North Branch Canal as wetland park. This idea was first illustrated in the Chicago Central Area Plan developed in 2003 by the City of Chicago. The Chicago Nature and Wildlife Plan adopted by the City of Chicago in 2006, outlined this vision for creating wetlands to help clean the water. The City of Chicago and the Metropolitan Water Reclamation District were exploring ways to remediate river sediments and improve water quality by creating wetlands that filter impurities and oxygenate the water. Opportunities to create extensions of the Riverwalk trail into the wetlands through a series of boardwalks were also discussed. The Wild Mile Framework Vision further delves into types of programmatic ideas that the community wants and the types of habitats to be implemented, according to ecological experts.

Chicago Central Area Plan (2003)



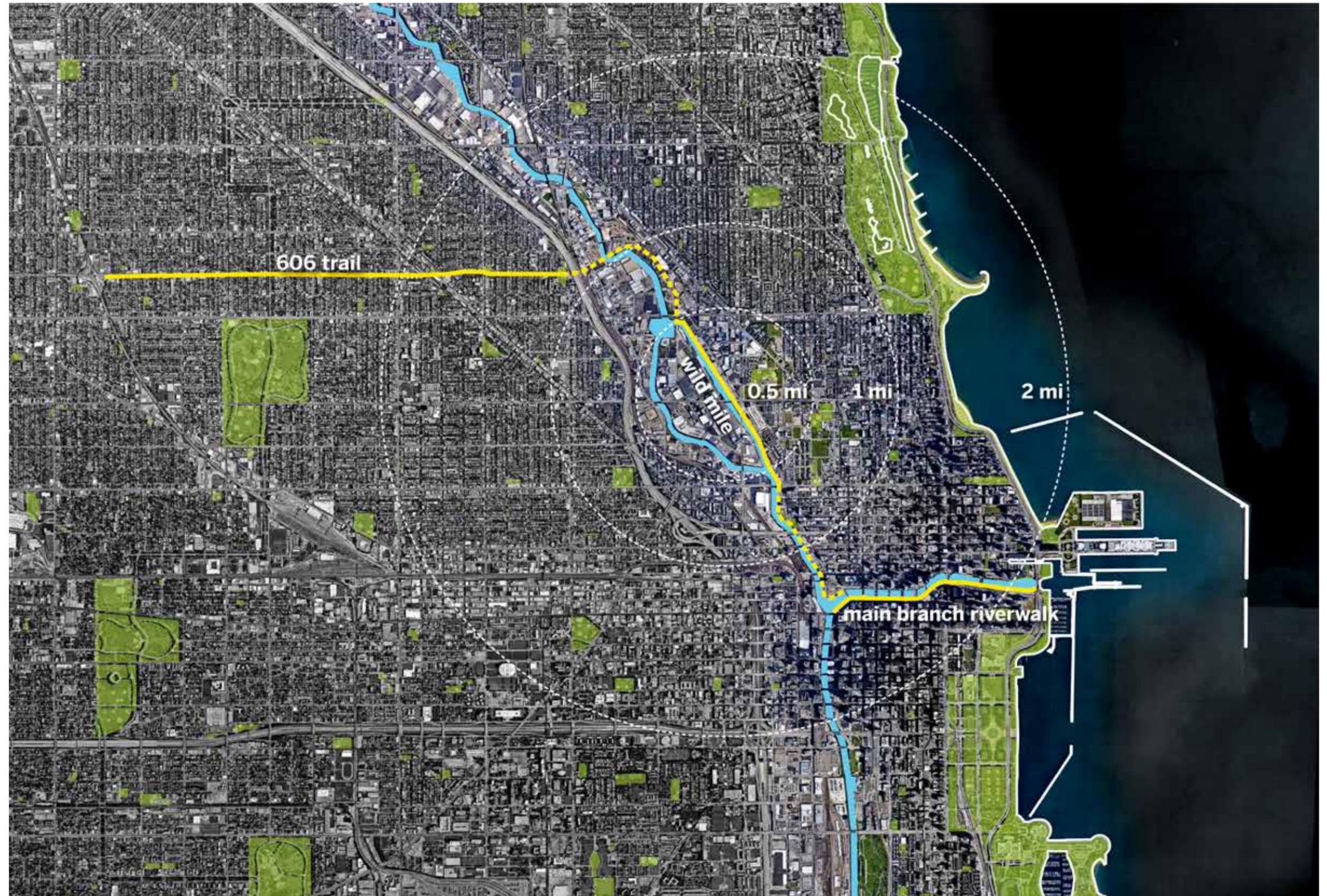
North Branch Framework Documents



1.1 What is the Wild Mile?

The Chicago River and the North Branch

The North Branch is part of 156-mile Chicago River system that flows in tributaries from the northwest side and north side of the city through downtown and exits the city on the southwest side. The combined in-city length of the river's three branches is 23.7 miles. The Chicago River was the transportation "infrastructure" that enabled the early city's growth, and is still a working river. In 1900, to protect the water quality of Lake Michigan, the Main Stem and South Branch were reversed. At Ashland Avenue, where the Great Lakes and Mississippi River watersheds meet, the river enters the Chicago Sanitary and Ship Canal, connecting them. Starting in the late 1970's, there was growing awareness that the Chicago River was a neglected resource in the City with significant potential to become a new recreational and environmental asset. Throughout the 1990's and early 2000's advocates worked to protect and enhance the river system, which led to the creation of the downtown Riverwalk, and other initiatives to help return people and wildlife to the river.



1.1 What is the Wild Mile?

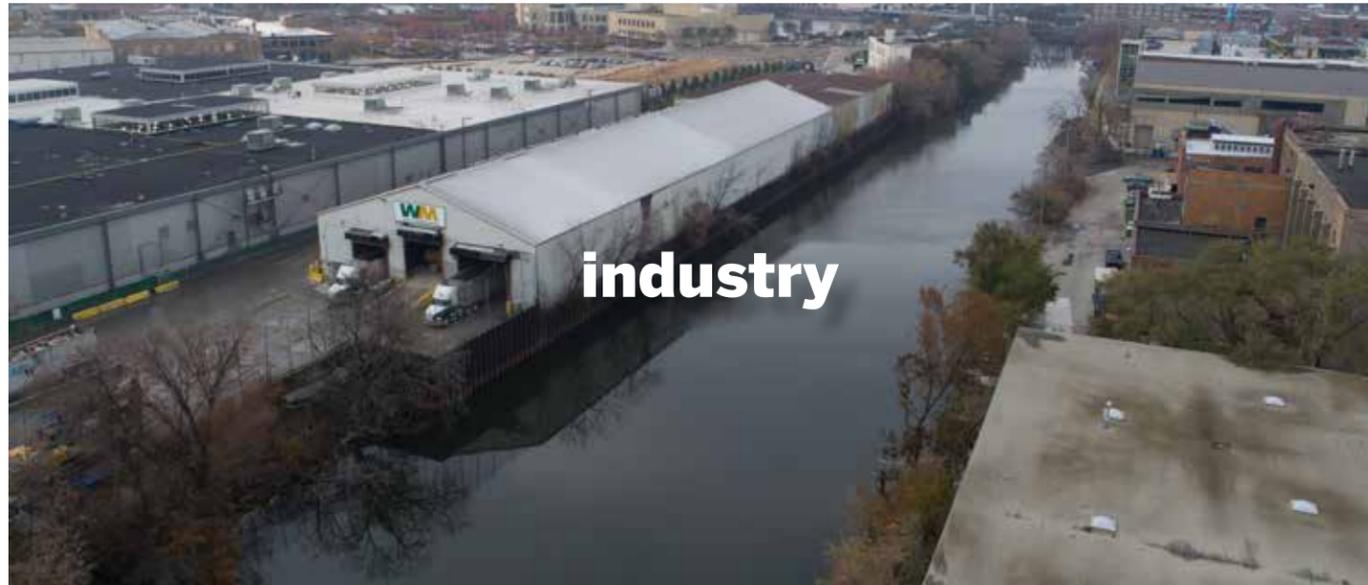
Naming the “Wild Mile”

The North Branch is one of the few segments of the Chicago River that has maintained its natural flow, south toward Lake Michigan: the other branches were reversed to flow backwards into the Mississippi River watershed in 1900. Since its founding in 1979, Friends of the Chicago River have promoted kayaking for people to develop a personal waterline experience of the North Branch.

The North Branch Canal poses a unique opportunity for implementing habitat installations. The canal's shallow depths inhibits boat and barge traffic and therefore it experiences limited wake action. It's mile-long stretch of channelized and eroding edges possesses the ability to be greened – re-wilding the once riparian stretch of urban waterway.

In 2014, a volunteer, community-based initiative called Urban Rivers began experimenting with the implementation of floating “wetland rafts” planted with native species – turning vision into reality – and beginning the transformation of this man-made river corridor into the Wild Mile. The Chicago Department of Planning and Development has created this framework vision to restore

the experience of natural wildlife to the urban environment along this stretch of the river, with an emphasis on community, accessibility, and education. The community has embraced the ‘wild mile’ as a means to reclaim the river.



1.2 The Opportunity

Army Corps of Engineers

Unique Chicago River Opportunity

The human-made North Branch Canal originally allowed for straight-ahead commercial navigation to upriver factories, but that was in the 19th century. Today, “Ogden’s Canal” can manage small pleasure craft at best because of its shallow water, underwater obstructions and 20th century fixed bridges.

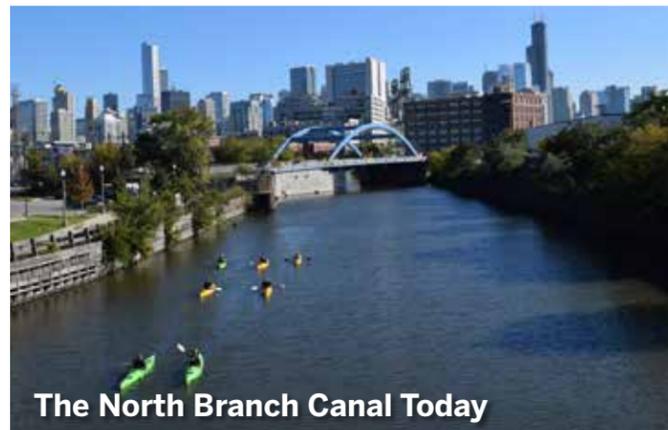
The U.S. Army Corps of Engineers (USACE) has no current plans for dredging the Canal because of cost and lack of disposal sites for dredge material. The long-term goal would be that they deauthorize the canal for navigability, but in the short term the Corps is considering a programmatic approach that would permit habitat restoration and floating walkways.

It is hoped that the Corps of Engineers will eventually list the Canal as unnavigable. The purpose of deauthorization of navigation channel would allow for full buildout of the Wild Mile. To allow for near-term habitat restoration, and implementation of floating habitat and walkways, the Corps is considering a programmatic approach for permitting the projects.

Turning Basin Feasibility Study

At the request of the Department of Planning and Development, the Corps of Engineers is studying re-naturalizing the edges of the Turning Basin on the Wild Mile, with the expectation that a navigation channel for boat traffic would be maintained.

The Turning Basin is currently undergoing a Section 1135 Study with the USACE, the goal of which is to re-naturalize the edges.



The North Branch Canal Today

Ongoing City Efforts

Build on the efforts of the City, Vision for a Blue/Green Corridor, Great Rivers Chicago, and the newly formed River Ecology and Governance Task Force

Since the Clean Water Act of 1972, and the subsequent founding of Friends of the Chicago River (FOTCR) in 1979, Chicagoans awareness of the importance of the Chicago River has been increasing. As water quality has improved, the river has once again become home to critical species, and has increasingly become a recreational amenity. There is the desire to re-orient Chicago’s neighborhoods toward the river, the downtown Riverwalk being evidence of that concept.

Our Great Rivers is the first unifying and forward-looking vision for all three of Chicago’s rivers. It was an 18-month, citywide visioning process led by the Chicago Metropolitan Planning Council, in partnership with the Office of the Mayor, Chicago Metropolitan Agency for Planning, Friends of the Chicago River, and others

Engaged thousands of stakeholders

The vision that by 2040, Chicago’s rivers will be inviting, productive and living places where everyone can have their own experience. The river is now a draw for tourists and a generator of revenue for the City. Recognizing this the Friends of the Chicago River is now studying the intersection between economic growth and environmental conservation and restoration with the establishment of a 156-mile long, connected “Blue/Green Corridor.”

There is a movement across the country to transform decaying urban and industrial waterfronts into healthy and vibrant park systems and thriving ecosystems. Through case study research Friends of the Chicago River have found that such transformations have created not only healthier environments, but healthier economies as well.

The Wild Mile is an example of a beneficial ecological and community amenity that would have the ability to generate substantial economical returns to the region.

Coordinated approach to improve river health

In January of 2019, Mayor Rahm Emanuel signed an Executive order for the City to create a River Ecology and Governance Task Force that has united more than 50 government, advocate, institutional, design professionals, and community organizations working together to improve the health and ecology of the river. The Task Force has since created four working groups around area of common practice: Science and Design, Stewardship and Volunteerism, Community Connections, and Trails.

Chicago Riverwalk

In January 2019, the City of Chicago also adopted the “Chicago River Design Guidelines,” laying out the City’s expectations for developments along the Chicago River. In April 2019, they delivered the “Chicago River Brand Standards and Guidelines,” a visual branding system for the riverwalk and set developer expectations for signage design and aesthetics, to ensure a sense of cohesion and place. The Wild Mile Framework Vision aligns with these documents.



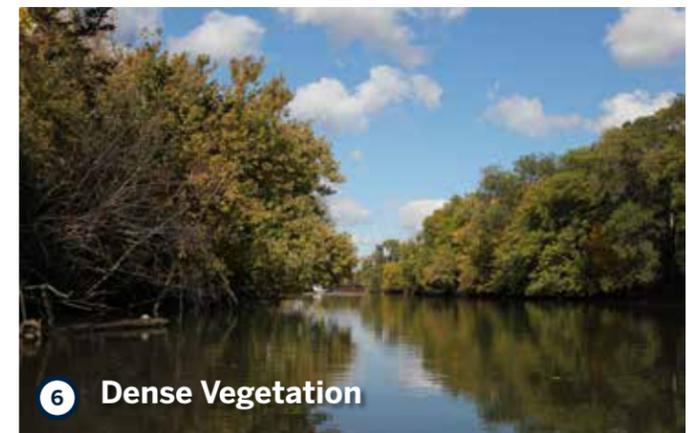
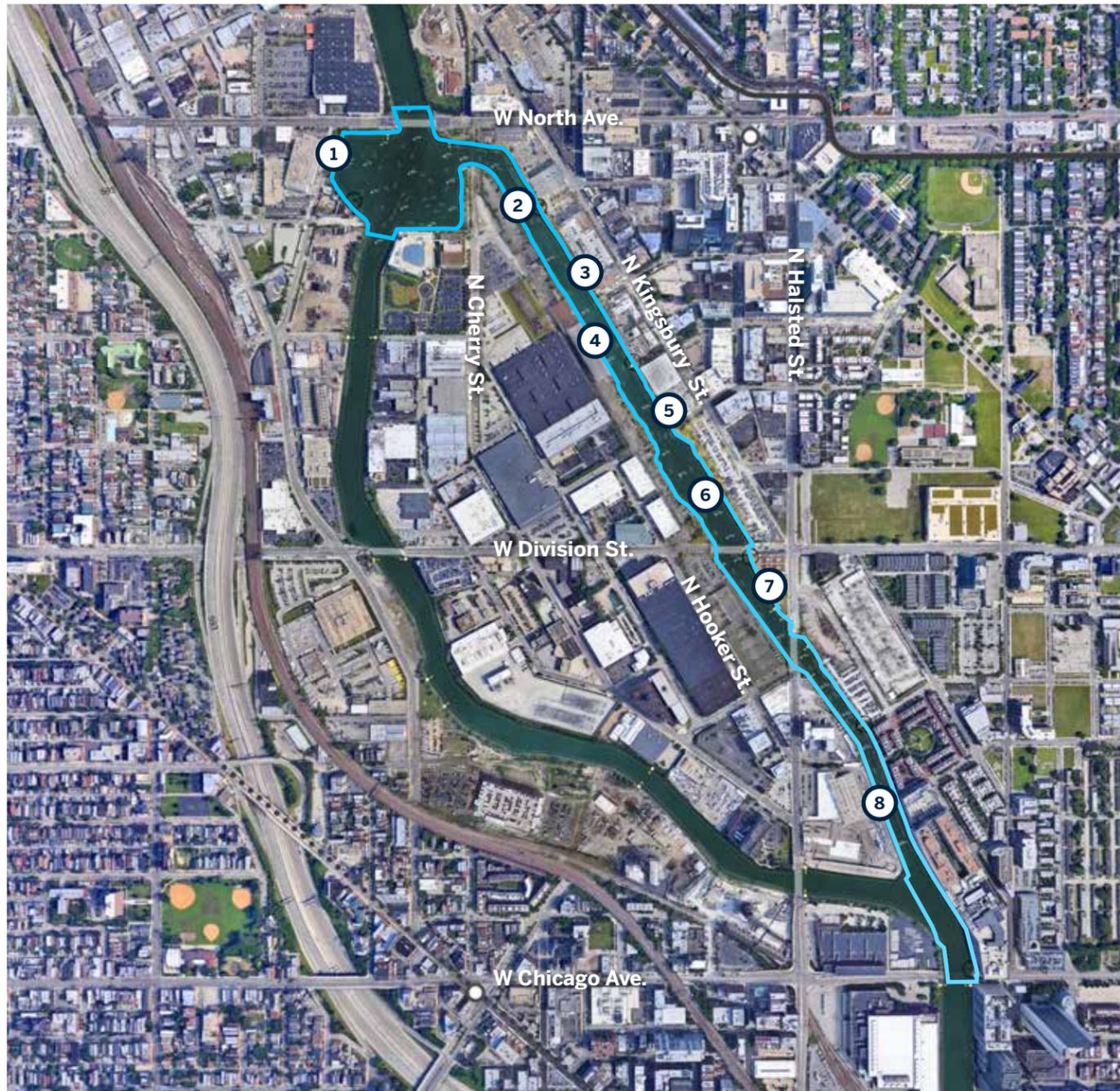
Our Great Rivers Engagement

1.2 The Opportunity

Existing Character and Adjacent Uses

The Turning Basin and North Branch Canal reside within the North Branch Industrial Corridor. The adjacent uses reflect the area's identity as shifting from manufacturing to retail, commercial, and residential. The North Branch Framework Plan

recommends preserving an industrial job base on Goose Island. A rise in recreational uses, river walks in adjacent properties, efforts to green the river and new infrastructure investments show the area's transformation into a mixed use experience.



1.3 A Community Vision

Building a Community Initiative

The Wild Mile Framework Plan is the result of a creative collaboration of ecological scientists, stakeholders, area residents, community organizations and schools, as well as artists, environmental installation experts and educators.

Together, they defined a comprehensive vision that put wildlife first, but also included education and learning, water activities, aquatic and natural habitat, strolling, sitting and viewing, working and volunteering, eating and drinking, destinations, festivals and events, health and fitness.

Near North Unity Program

A key partner in advancing the vision for the Wild Mile was the Near North Unity Program (NNUP), organized in 2010 to connect into a resilient neighborhood of existing sub-communities between North Ave. and W. Chicago Ave. and N. Halsted St. and N. Wells St. by building on local strengths and shared opportunities, including the North Branch Canal.

Members of the diverse NNUP community hosted the Wild Mile public meetings and ensured broad-based resident participation through aggressive outreach, ensuring that the voices of those most affected would help shape the community's new natural open space asset.

In order to make the vision a reality, equal collaboration of science, community, and art/education is necessary. The expertise of each field is required to program the Wild Mile in accordance with the community's expressed wants and needs.

Near North Unity Program, Urban Rivers, and NeighborSpace are the core partners to start the Wild Mile Vision.



Reverend Blakey of NNUP

Urban Rivers

A small group of volunteers and visionary, entrepreneurial ecologists in 2014 began working on what will become the first-ever eco-park on such a large scale, with what will be a mile-long urban park of floating gardens, forests, public walkways and kayak docks on the North Branch Canal.

The initiative began by planting floating platforms - attached to the steel sheet pile wall - with native species to create wildlife habitat restoration pods. Almost immediately, waterfowl took to the habitat designed to also create habitat to restore fish and turtles to the Chicago River. In subsequent years, the floating platforms became sustainable.



Urban Rivers with science class

NeighborSpace

NeighborSpace is the only nonprofit urban land trust in Chicago that preserves and sustains gardens on behalf of dedicated community groups, through property ownership, insurance, water, stewardship, education, tool lending, etc., so engaged residents can focus on their community-building activities like the Wild Mile.

NeighborSpace will work with the City in realizing the vision of the Wild Mile as the City starts work on the demonstration project using the available Impact Fee funds. Currently, the City has a grant agreement with NeighborSpace to develop the street-end River Education Platform at W. Eastman Street within the Wild Mile Area as a land trust, NeighborSpace assures site public access.



Neighborspace run public space

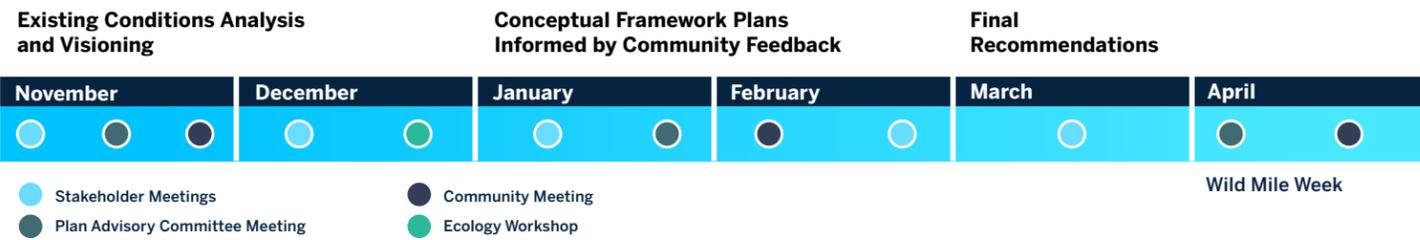
1.3 A Community Vision

Creating a Community Vision

The Framework Plan process actively sought input from all interested parties, and created conceptual framework plans informed by community input and feedback. This is a plan of the community, by the community and for the community.

Starting in November 2018, and ending in March, 2019, separate meetings were convened with

three core groups: stakeholder, the Plan Advisory Committee (comprised of Friends of the Chicago River, Openlands, Active Transportation Alliance, et al), and the community in well publicized public meetings. After each meeting, the City Department of Planning and its design consultant Skidmore, Owings & Merrill LLP worked to include and reconcile the best ideas from the community.



Kayaking Trip



Ecology Workshop



Map Exercises



Classroom Activities

Engagement Summary

Three Large Community Meetings

- Meeting 1 - Nov 16, 2018
- Meeting 2 - Feb 7, 2019
- Meeting 3 - April 25, 2019
- Wild Mile Week - April 22-27, 2019
 - Book Display at Near North Library
 - Earth Day River Clean Up with Groupon
 - Whole Foods Social with We All Live Here
 - Wild Mile Canoe Trip with Kayak Chicago
 - Hands-On Garden Activity with REI and UR
 - The Original Earth Day River Cruise with Friends of the Chicago River

Three Public Advisory Committee Meetings

- November
- February
- April
- PAC Members: Active Transportation Alliance, Friends of the Chicago River, NeighborSpace, Openlands, We All Live Here, Kayak Chicago, Holsten Human Capital Development, GreenCorps Chicago, enerGEEwhizz, and Chicago Public Library Near North Branch

One-on-One Stakeholder Meetings

- Holsten Human Capital Development
- Whole Foods
- Groupon
- Alderman Walter Burnett, Jr. (27th Ward)
- Waste Management
- REI
- Friends of the Chicago River Planning Committee
- Chicago Public Library Near North Branch
- Carbit Corporation

Special Workshops

- Ecology Workshop
 - Included Lincoln Park Zoo, Shedd Aquarium, Army Corps of Engineers, and an independent research biologist
- Near North Small Group Workshop
 - Included Access Living, Art on Sedgwick, and Chicago Housing Authority

Wild Mile Website
www.wildmilechicago.org



Identifying Program



Discussing Program Location



Exhibiting at REI



Giving Design Input

1.3 A Community Vision

Wild Mile Guiding Principles

The guiding principles take their basis from those developed during the North Branch Framework Planning effort, but are tailored specifically to the Wild Mile Project. These principles were vetted during the community process and further developed through community input.

1. Put wildlife first.

- Create and expand habitat
- Foster immersive nature experiences
- Enhance and restore the riparian and emergent landscapes
- Create dog amenities away from habitat

2. Connect people with nature.

- Promote partnerships with local institutions that coordinate educational, cultural and recreational programming

3. Expand public access.

- Improve and create additional access points
- Design and designate paths closest to and/or in the river for pedestrians, and those with strollers and equipment to assist the disabled
- Create designated bike routes separate from the pedestrian boardwalks

4. Design a cohesive experience.

- Create a sense of place for Chicago residents of all ages and backgrounds

5. Lead the world.

- Promote innovation and experimentation within the Wild Mile to inspire holistic thinking around ecology and urbanism

6. Create a place for everyone.

- Integrate a variety of spaces open to the public year-round, inclusive of all Chicago residents and for a range of ages and abilities



1.3 A Community Vision

What the Community Wants

Enhanced Access

The community expressed a desire for easy-to-use routes to get to the river safely and access points to get down to river level. The community would like to be connected to the river and more natural spaces but feel limited in their options. Wild Mile should not only be a destination, but also serve as a connection to other parts of the city.

Inclusive Approach

The community reported a desire for the Wild Mile to be an inclusive space for all members of the community. The community would like the space and programming to be affordable (little or no cost). The community also expressed concerns around being kept out of privately-owned riverfront areas.

Water Quality Matters

The community expressed concern about the Chicago River water quality and interest in river cleanup efforts. Many members of the community expressed an interest in work and volunteer opportunities to help clean up the river.

Separate Biking and Walking Paths

The community expressed a desire to keep cyclists and pedestrians separated using two different paths. The community stated a preference to have a pedestrian focus along the riverfront and biking at street level. Bikes are considered fast moving and could disturb people on foot seeking a quiet, serene space.

Safety + Traffic Flow

The community requested investments in public safety and traffic control in anticipation of the increased foot and vehicle traffic around Wild Mile. The community expressed an interest in making sure the riverfront was safe for all visitors, especially youth. Additionally, community members expressed concerns regarding increased traffic congestion and strain on available parking as a result of this development,

Identified Programming

At the first Wild Mile community meeting, activities and discussion were facilitated in order to gather their desires for the Wild Mile. Feedback from the community was recorded through two different channels: Interactive boards featuring a map of the project area and categories for potential Wild Mile amenities, and small group discussion. Below is the list of activities that the community wanted in order of preference.

1. Education and Learning
2. Water Activities
3. Aquatic and Natural Habitat
4. Strolling, Sitting and Viewing
5. Working and Volunteering
6. Eating and Drinking
7. Destinations, Festivals and Events
8. Health and Fitness
9. Other

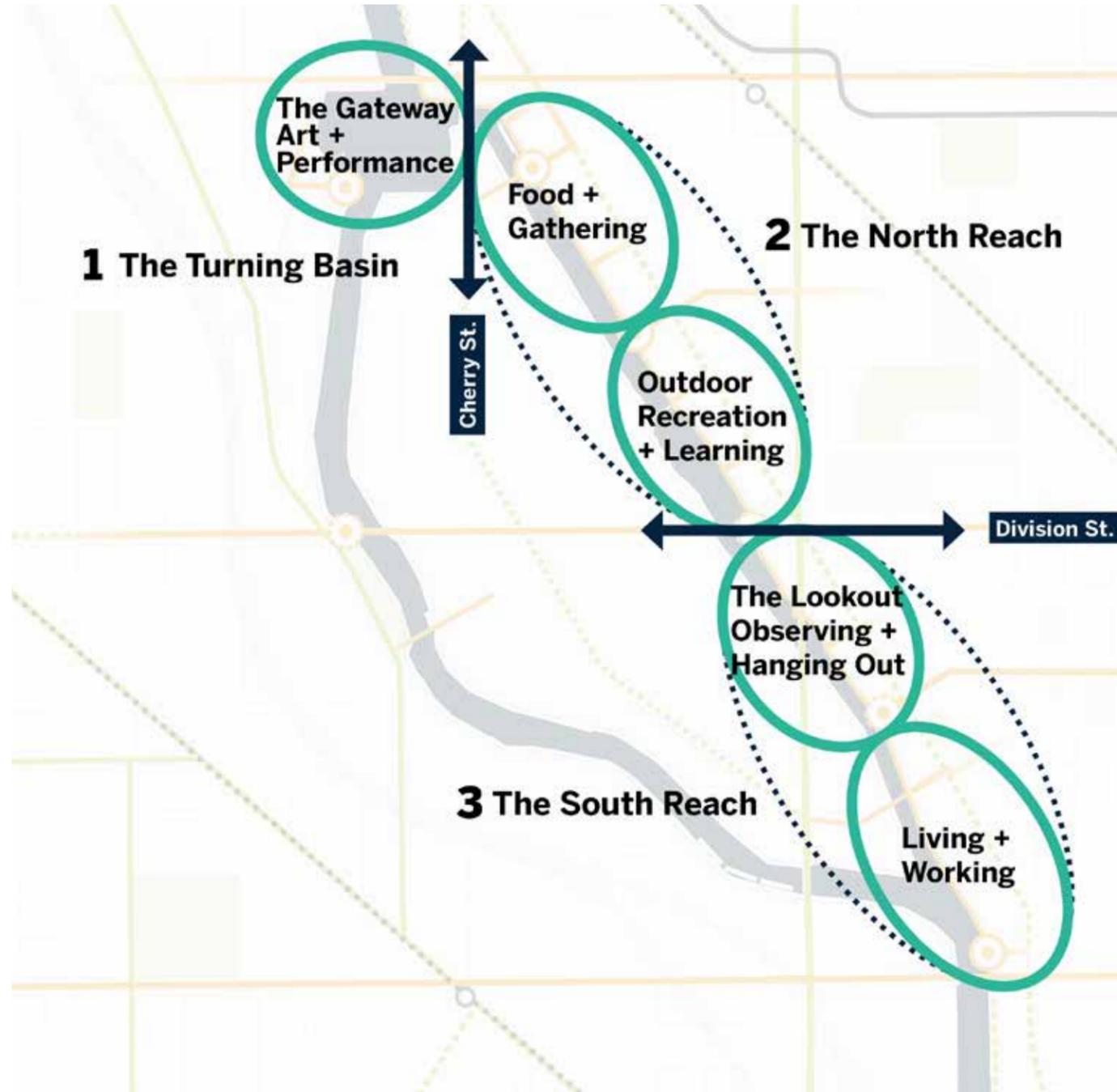


1.3 A Community Vision

The Wild Mile Reaches

The Framework Plan divides the project into three geographical reaches, each with different programmatic and ecological roles. The plan is further subdivided into character zones, each

with different programmatic themes based on surrounding context and insights gathered through public process.



The Turning Basin

An area of open water spanning from W. North Ave to W. LaMoyné St. and the Wrigley/Mars property at its southern edge, bordered by N. Magnolia St. on the west and the Cherry Street Bridge on the east. This lake-like setting, once specifically utilized for navigation will be a dramatic, park-like open space, focused on environmental art installations and performance. There is the opportunity to naturalize the edges of the basin and add floating habitat, while leaving a clear, navigable path for boats moving along the Chicago River and Wild Mile.



The North Reach

The North Reach spans from the Cherry Street Bridge to W. Division St. Adjacent uses include Whole Foods, REI, Waste Management, other commercial and industrial uses, and a large development site. This reach will have corresponding programs related to food, gathering, art, education and recreation. This stretch of the river, with its shallow waters and mix of hard eroded edges and immersive stretches holds the opportunity for a variety of habitat installations. The blank wall of the Waste Management Transfer station is an opportunity for art.



The South Reach

The South Reach stretches from W. Division St. to W. Chicago Ave. Adjacent uses span from retail and warehouse, to vacant land and development sites, to residential and commercial. The triangular portion of land, previously an abutment for the Ogden Ave. Bridge, is city-owned, and is an opportunity for an overlook, outdoor exhibit area, educational center, restrooms, etc. The South Reach is an opportunity to enhance the experience of those living and working on the Wild Mile. Spaces to work/volunteer, eat, relax, and hang out.



02 Vision

- 2.1 A Strategy for Urban Wildlife
- 2.2 Expand Public Access
- 2.3 Connect People with Nature
- 2.4 Create a Place for Everyone
- 2.5 Lead the World



The Wild Mile Vision

A new approach to park design, the Wild Mile framework poses an opportunity to innovate and lead the world.

In order to transform the Wild Mile into a wildlife sanctuary, the Framework Plan emphasizes a focus on the creation and expansion of habitat first. It is critical to foster the growth of immersive nature experiences in the urban environment, in order to establish places for the community to learn about the environment.



“Where we all Meet”



2.1 A Strategy for Urban Wildlife Habitat Zones

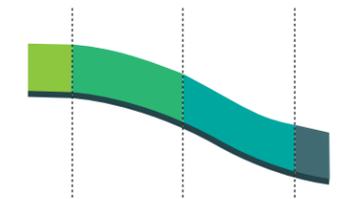
A naturally occurring river has a gradient of habitats that transition between land and water. The area between the top of bank and the water's edge is considered the Riparian Zone. This important ecological bridge stabilizes the river's edge, provides quality and diverse habitats, and acts as a buffer for stormwater runoff. The riparian zone is comprised of four distinct habitat areas: upland, riparian, emergent, and littoral.

The North Branch Canal and adjacent land meet abruptly at a channelized river edge. The bulkhead or seawall provide edge stabilization for the structures on land, but eliminate the interface between the land and the water, disregarding the riparian and emergent habitat zones. These edge

conditions should be expanded to reintroduce the missing zones and to fill the gaps in habitat between the upland and littoral.

There are a few locations along this stretch of urbanized waterway that are eroded or naturalized, but not necessarily stabilized. These areas provide the opportunity to naturalize the shoreline. The goal of a naturalized bank is to create a stabilized riverbank in which a healthy riparian zone can be reintroduced, serving as biodiverse edge with beneficial habitats and the filtration of stormwater before it enters the Chicago River.

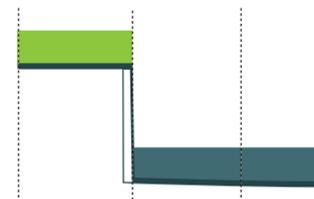
Then



upland riparian emergent aquatic



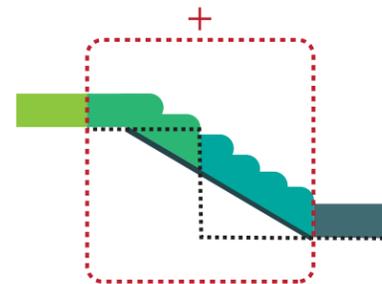
Now



upland aquatic



Future



upland riparian emergent aquatic



Upland

Grows best in well-drained soils, and many plants in the upland plant community are tolerant of drier conditions.



Riparian

Also known as the riverbank zone, occurs at the interface of the land and water's edge. This area may be seasonally or in some cases permanently flooded. Plants in this area can handle both wet and dry conditions. These are known as facultative wetland plants.



Emergent

Grows near the shoreline in shallow, wet zones and is rooted in the river bottom sediment. These plants are also called shoreline or marginal plants.



Aquatic

Plants that can only grow in water or soil that is permanently saturated with water. These can come in the form of both subergent and floating plants.

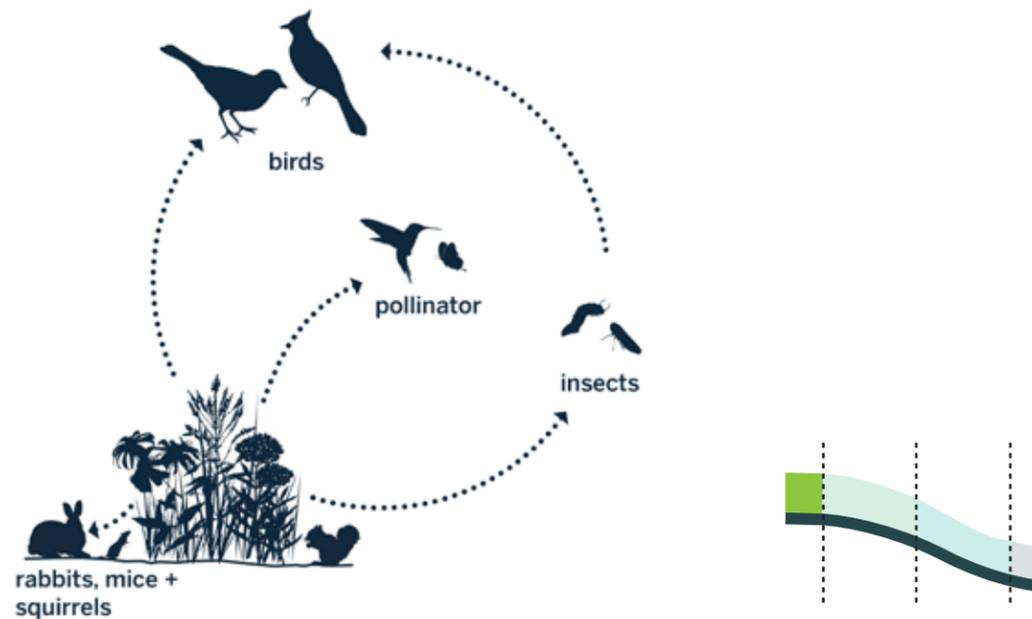


2.1 A Strategy for Urban Wildlife Wild Mile Ecosystem

The interconnectedness of species on Earth is on display at the Wild Mile. The aquatic, riparian, and upland habitats in the Wild Mile support many complex food webs in which nutrients are transferred from one life to another. The sediment and water in the river are the bases of the aquatic food web; soil serves the same role on land. The life forms too small to see and the nutrients dissolved in water are the foundation that supports all other life. The algae and tiny creatures in sediment and water are eaten by invertebrates, which are eaten by frogs and fish, in turn feeding larger fish and aquatic birds. On land, the same roles are filled by

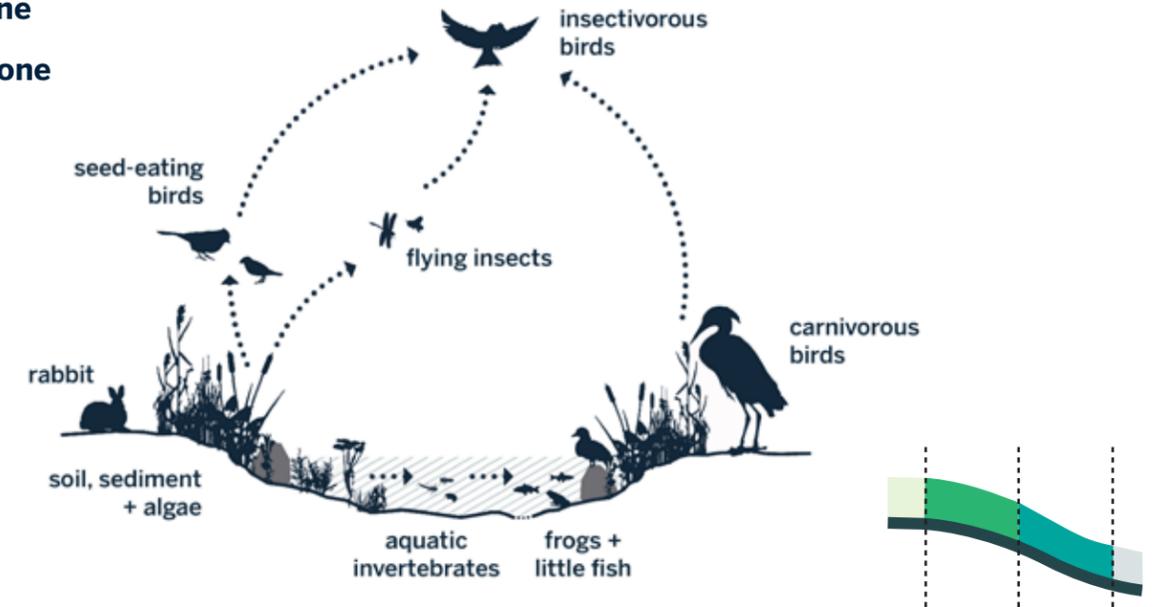
invertebrates, lizards, birds, and small mammals. If we wish to view the charismatic megafauna such as the Great Blue Heron or go fishing for pumpkinseed, we have to ensure that their needs for food, shelter, and safety are met. The innovative habitats of the Wild Mile were designed with these goals in mind. Supporting the awe-inspiring animals we can see are the textured, nuanced habitat features that enhance water quality, promote biofilms, support invertebrates, and sustain their web of life. Major components of aquatic, riparian, and upland food webs are illustrated here.

Upland Zone

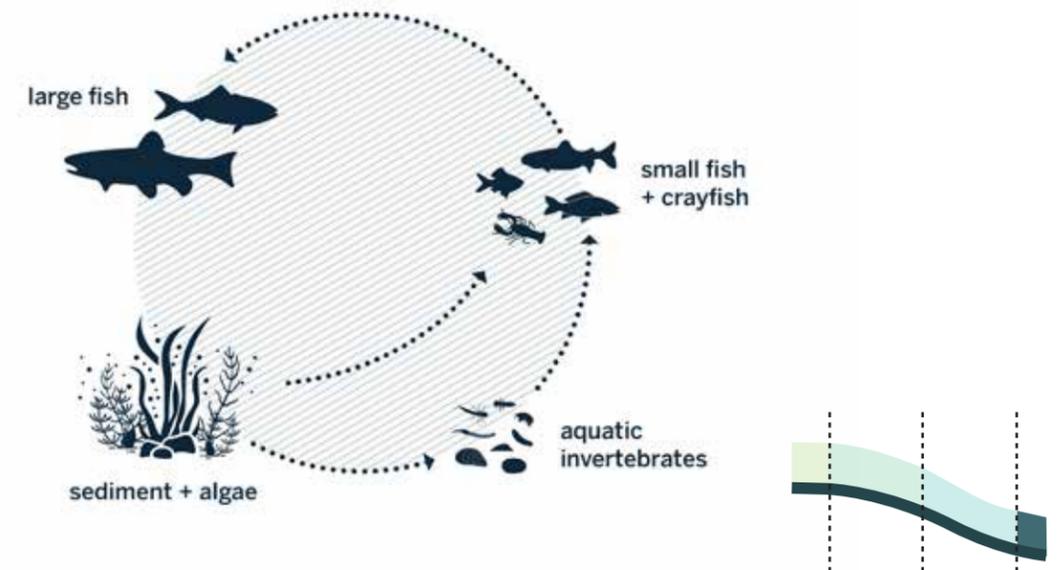


Riparian Zone

Emergent Zone



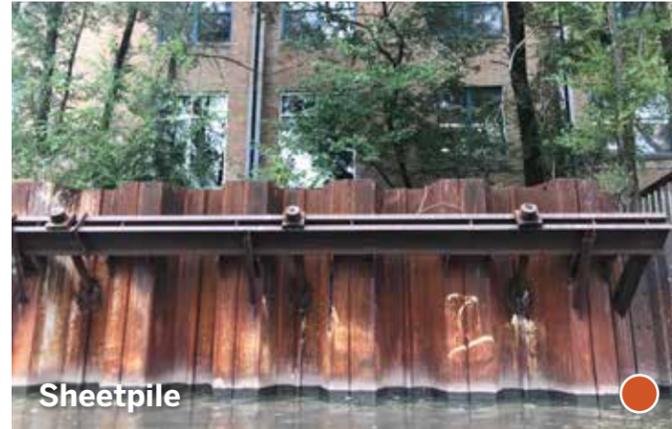
Aquatic Zone



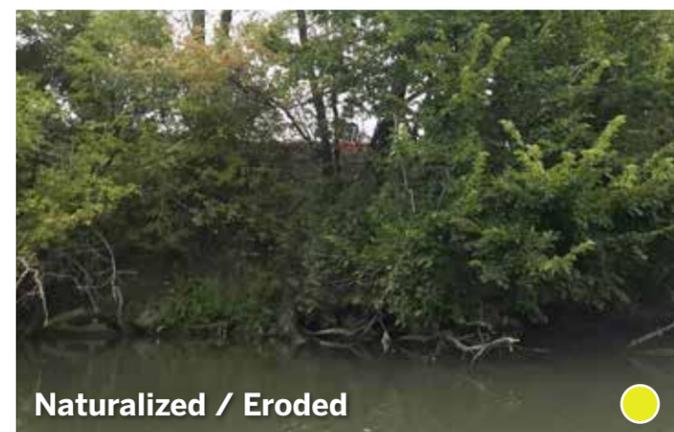
2.1 A Strategy for Urban Wildlife

Existing Edge Conditions

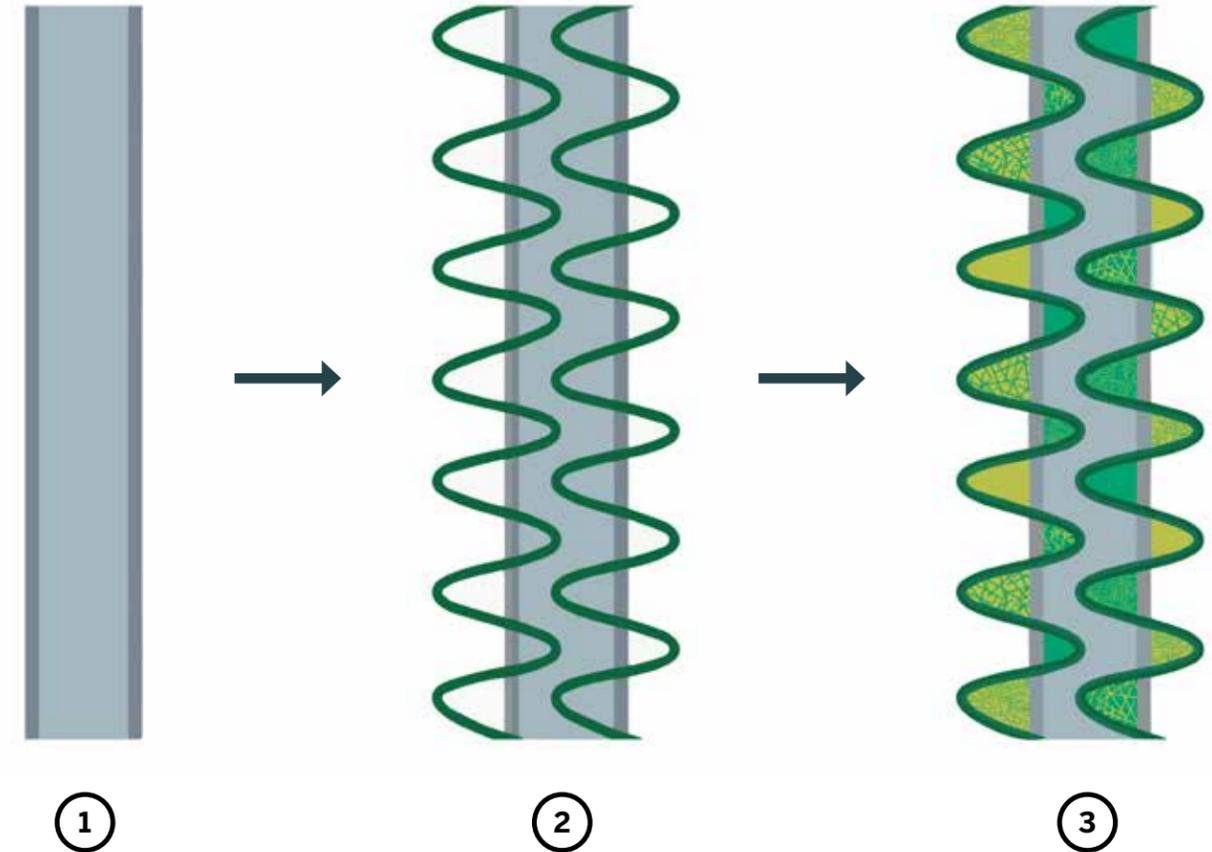
The North Branch Canal's manmade edges have been constructed in a variety of different ways over time. They generally fall into six different categories as seen below.



Each structural condition poses its unique challenges and possibilities for incorporating access points and habitat installations.



“De-channelize” the River



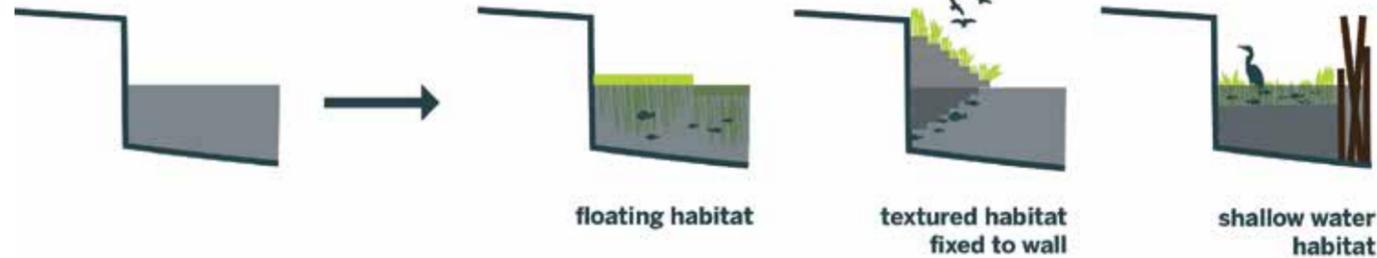
Retrofitting the edges of this channelized waterway into green buffers will help to re-establish the “natural” form and process of the river. By adding vegetated installations to the walls of the canal, floating at its edges, and atop the banks, naturalizing wherever possible, the surface area of the edge is increased, mimicking the lost riparian zone, and bringing back habitat potential and the ability to intercept stormwater from the urban fringe above.

1. Channelized River
2. Retrofit Green Edge + Increase Edge Surface Area
3. Create Habitat Mosaic + Intercept Stormwater

2.1 A Strategy for Urban Wildlife

Adding Habitat Value to the Edge

Vertical Wall Condition



Vertical walls offer little habitat value to native wildlife. Wooden and concrete walls will be softened by installing native plants at the top and bottom. Please refer to the habitat matrix (Page 138) for modifications appropriate to each type of edge condition. Refer also to the Plant Palette detailed in the Appendix for the specific native plants recommended for each habitat type.

Installations Above the Walls

Plants with trailing growth forms will be installed at the top of the walls, where soil is adequate for growth. Refer to habitat matrix in Appendix for improvements appropriate to each type of wall condition.

Floating Habitat in Front of Walls

Floating rafts planted with climbing vines will be attached to the walls at water level, so that vines can grow vertically to meet the trailing plants from above. If necessary, supporting mesh will be attached to the walls to assist and secure the vines.

Planters Attached to Walls

Geotextile (fabric) pockets attached to walls will be planted with a variety of hardy upland plants with low water needs. Where feasible, a pumped irrigation system may be installed to expand the list of plants suitable for vertical walls. In areas where floating rafts are not used, emergent plants can be installed in pockets below water level to soften the lower meter or so of vertical wall.

Submerged Habitat for Aquatic Animals

The soft unstable sediments of the river do not offer much structure for animals to use as refuge. We will design and attach shelves, cubbies, open tubes, or other three-dimensionally-complex structures to the walls beneath the water level, to provide diverse shelter, rest areas, and sediment-free spawning areas for fish and invertebrates.

Horizontal Logs for Turtles, Frogs, and Birds

Large logs or other natural materials will be secured to the walls at water level to provide stable, dry, relatively protected places for turtles to bask, frogs to rest, and birds to perch.

Sloped Shoreline Condition



Restoring Emergent and Riparian Zones

Where steep slopes lead to the river's edge, heavy rains can easily erode the soil, washing it into the river where it buries vegetation and small invertebrates on the bottom. Too much soil suspended in the river can clog the gills of mussels and small fish. Degraded shorelines will be restored to a gentle slope and planted with native vegetation.

Variable Edge

Naturalized shorelines will be designed to provide a variety of edge conditions, varying in depth and slope along the Wild Mile. In some areas, terracing above the waterline will support plants with diverse water needs. Geotextiles, brush layering, and willow fencing may be installed to stabilize the soil. In other areas, underwater vertical structures will be installed to retain clean sediment in shallow flats where rooted emergent vegetation suitable for fish spawning can be established. Along stretches of the shoreline where sediment is mobile or unstable, articulated concrete mats will be placed on the riverbank to minimize erosion of the edge and provide nooks and crannies where invertebrates and small fish can forage, hide from predators, and shelter during periods of high flow.

Native Plant Palette

Rooted vegetation is the key to sustainable naturalized shorelines. The Plant Palette recommended for the Wild Mile includes only species native to the Chicago area. Submerged, emergent, riparian, and upland vegetation with high wildlife value are presented in Appendix 5.1. This appendix offers a complete matrix of plants suitable for each habitat type. Each type of plant was selected based on its native status and its value to wildlife, including insects, frogs, turtles, birds, and mammals. An assortment of plants throughout the Wild Mile will provide year-round food, nest sites, spawning areas, and shelter to animals in the water and on land.

Structures and Fixtures for Human Visitors

The first principal of the Wild Mile is to support native wildlife. In keeping with this goal, structures designed for humans, such as tables, chairs, benches, ramps, steps, and program platforms, will be interspersed with wildlife habitat on the east bank of the Wild Mile. The west bank of the river will be designed exclusively for wildlife so that their basic needs for food, shelter, reproduction, and privacy are met to the extent feasible.



2.1 A Strategy for Urban Wildlife Habitat Types

Appendix 5.1 includes a complete list of native plants recommended for the Wild Mile, with notes on wildlife value, habitat types, and use in other restoration areas. An electronic copy of the Plant Palette matrix is available upon request. The seven habitat types are described briefly below.

1. Submersed (S)

Plants that are rooted and have leaves completely underwater make up the Submersed plant group. These plants often grow in tangled masses of fine stems and leaves that provide excellent spawning substrate for fish, frogs, and toads. The oxygen produced by the plants may help keep the eggs aerated as they develop. Aquatic invertebrates, tadpoles, and newly hatched fish eat the almost invisible biofilm created by bacteria and algal cells on the surfaces of the submersed plants. Submersed plants create drag on the flowing water, allowing suspended sediment to drop out as the water slows. When the plants die, their tissues return nutrients to the river.

2. Emergent (E)

In water up to about two feet deep, Emergent plants take root in the sediment and extend their leaves above the water's surface. The stiff, stout stems of most emergent plants hold flowers in the air where bees and other pollinators can reach them. Like the submersed plants mentioned above, emergent plants slow the flow of water and filter suspended sediments from the water column. The aquatic nymphs of dragonflies and damselflies often crawl up the stems of emergent plants as they prepare to metamorphose into flying adults. The adults, in turn, rest on the tall emergent stems and flowers to look for mates flying over the open water. As tadpoles gain their legs and begin hopping about, they find moist shelter and a place to hunt for invertebrate prey among the emergent vegetation.

3. Trailing/Climbing Vines (V)

Vertical retaining walls hold back soils along the riverbank but offer limited wildlife value. As part of the greening of the shoreline edge in the Wild Mile, the walls will be vegetated by a variety of plants. Climbing vines will be planted in floating gardens in front of the walls and planters attached to the face of the walls. If necessary, natural structure will be attached to the vertical walls to support climbing vines. Where soil is available above the walls, trailing vines such as riverbank grape will be planted. The selected vines will provide shade and shelter from rain for wildlife, mediate temperatures on otherwise bare walls, and produce flowers, fruits, and seeds to nourish herbivorous wildlife. The insects, in turn, will attract animals that eat them.

4. Facultative Wetland (F)

Moving away from the water's edge, where the soil may be wet but is not frequently covered by water, Facultative Wetland plants dominate. This riparian, or riverside, habitat is suitable for plants that can tolerate wet roots but do not require constant moisture. Many facultative plants, such as sedges and rushes, form dense stands along naturalized shorelines where they stabilize the soil and trap soil carried by overland runoff before it reaches the river. These plants also filter nutrients and salts from stormwater, improving water quality in the river. Many facultative wetland plants make small flowers and may be pollinated by wind or insects. One of their great values to wildlife is the abundant seeds that feed birds and small mammals through the winter.

5. Pollinator Mix (P)

Plants in the Pollinator Mix offer nectar and/or pollen to bees, flies, butterflies, beetles, and/or hummingbirds. Insectivorous animals such as bats, songbirds, and spiders may be attracted to the pollinators themselves as prey. Plants that are pollinated later produce fruit, nuts, or seeds that

support many species of birds and small mammals throughout the summer and even into winter. The Pollinator Mix includes emergent, facultative, and upland plants.

6. Upland Drought Tolerant (D)

Naturalized slopes on the west side of the Wild Mile and upland areas above the floating walkways on the east side will be planted with trees, perennials, and reseeding annuals that do not require constant soil moisture. These native plants are expected to be sustained by the variable rain that the Wild Mile receives throughout the year. Upland plants provide year-round food to wild mice, rabbits, squirrels, deer, and resident songbirds.

7. Floating Trees (T)

Trees planted on buoyant rafts will be placed within the river to provide habitat away from the riverbanks. The trees will provide forage and shelter for flying insects, tree frogs, toads, birds, and semi-aquatic mammals. Birds will perch and perhaps nest among the branches.

Support for Federally Protected Species

At least 11 species listed as threatened, endangered, or candidates for protection under the federal Endangered Species Act occur in the vicinity of the Wild Mile. None of these species is known to occur within the Wild Mile. However, plant restoration on the Wild Mile may support two protected insect species: the rusty patched bumble bee and the rattlesnake master borer moth.

The Wild Mile Recommended Plant Palette includes several species listed by Illinois as threatened or endangered in Cook County, including a sedge, Queen-of-the-prairie, and the highbush blueberry. Three federally threatened protected plants also may be suitable for establishing in restored habitats in the Wild Mile (Eastern prairie fringed orchid, Mead's milkweed, and Prairie bush clover).

Habitat installations designed as rookeries will target nesting needs of the state endangered black-crowned night heron.



Upland / Pollinator



Floating



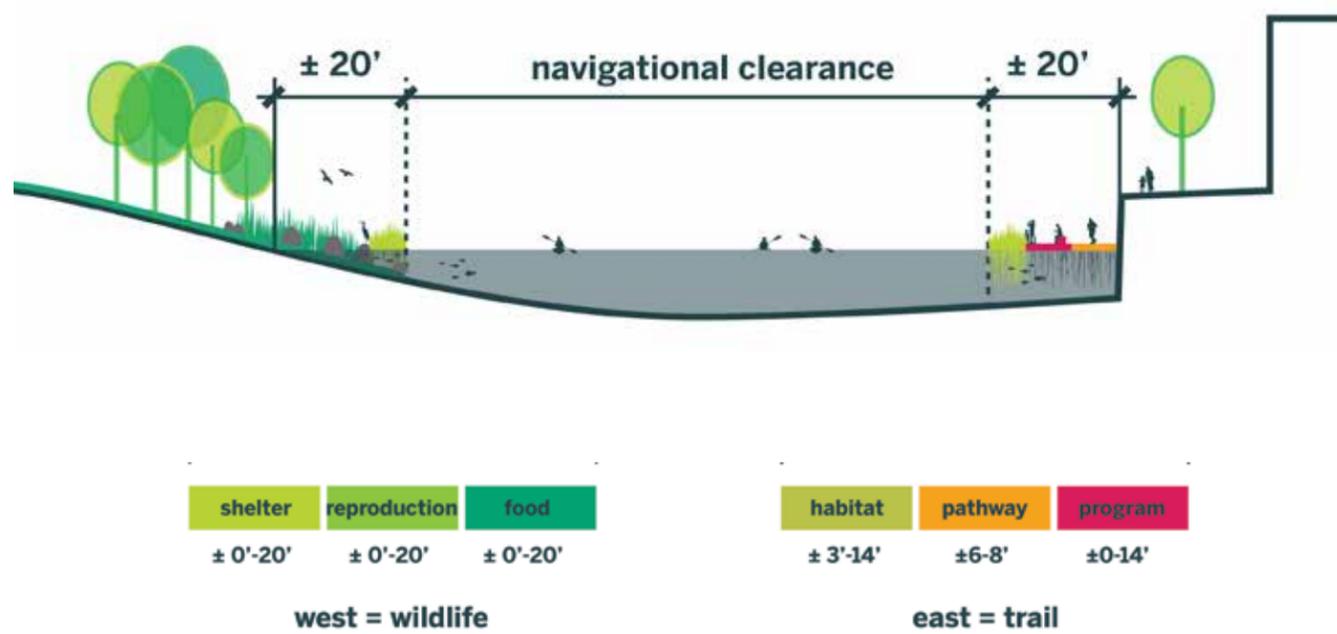
Emergent

2.2 Expand Public Access

Establishing Clear Zones

The Wild Mile Framework works with the navigational clearance established by the US Army Corp of Engineers. This allows for approximately 20' on either side of the North Branch Canal to be dedicated to Wild Mile improvements. The framework establishes clear zones – the western edge of the Wild Mile along Goose Island is dedicated to wildlife, while the eastern edge, adjacent to the Near North Side community is dedicated to people- establishing access down to river level, the creation of a continuous floating pathway, and the implementation of programmatic platforms for people to interact and learn about urban habitats.

The distinction between either edge of the Wild Mile is important in achieving the guiding principle of habitat first. For habitats to be established and to ultimately thrive, they must be left alone. If the vegetation flourishes and the installations are successful in attracting wildlife, that creates viewing and learning opportunities for people. On the eastern edge of the Wild Mile they can stroll along a floating pathway, stop on a viewing platform to observe the fauna, participate in a class to learn about the local ecosystem or interact in other ways.



A Range of Activities

Within the Framework of the Wild Mile, variety and diversity are important factors, just as they are within the ecosystem. The Framework sets forth a range of activities and installations that can take place on either edge of the Canal and Turning basin. The vision is to create a habitat mosaic.

The Framework establishes that the western edge is dedicated to wildlife, but the variability of habitat types is important for creating a dynamic environment. Just as humans take shelter in their homes, buy food at the store or farmer's market and participate in other activities throughout their day/year, animals also need a variety of environments to attract them to a location and allow them to thrive as a species.

Just as important is creating a variety of opportunities for community members, school children and young adults, and tourists alike to engage and interact with the Wild Mild. The Wild Mile Trail that the Plan dedicates on the east side of the current North Branch Canal is to be divided between a continuous pathway, programmatic platforms, and habitat installations. Throughout the length of the mile-long trail, each segment will vary in its emphasis on areas for programs to occur and areas more embedded in floating vegetation and habitat.



2.2 Expand Public Access

A Framework for Connectivity

A guiding principle of the Wild Mile Framework Plan is to expand public access to the Wild Mile. The North Branch Canal and Turning Basin are largely inaccessible to the public due to their industrial past. Through the establishment of regularly

spaced access points at street ends and mid blocks of future developments, and the improvement of existing access points, the Framework Plan will ensure convenient universal access to varying river edge programs and conditions.

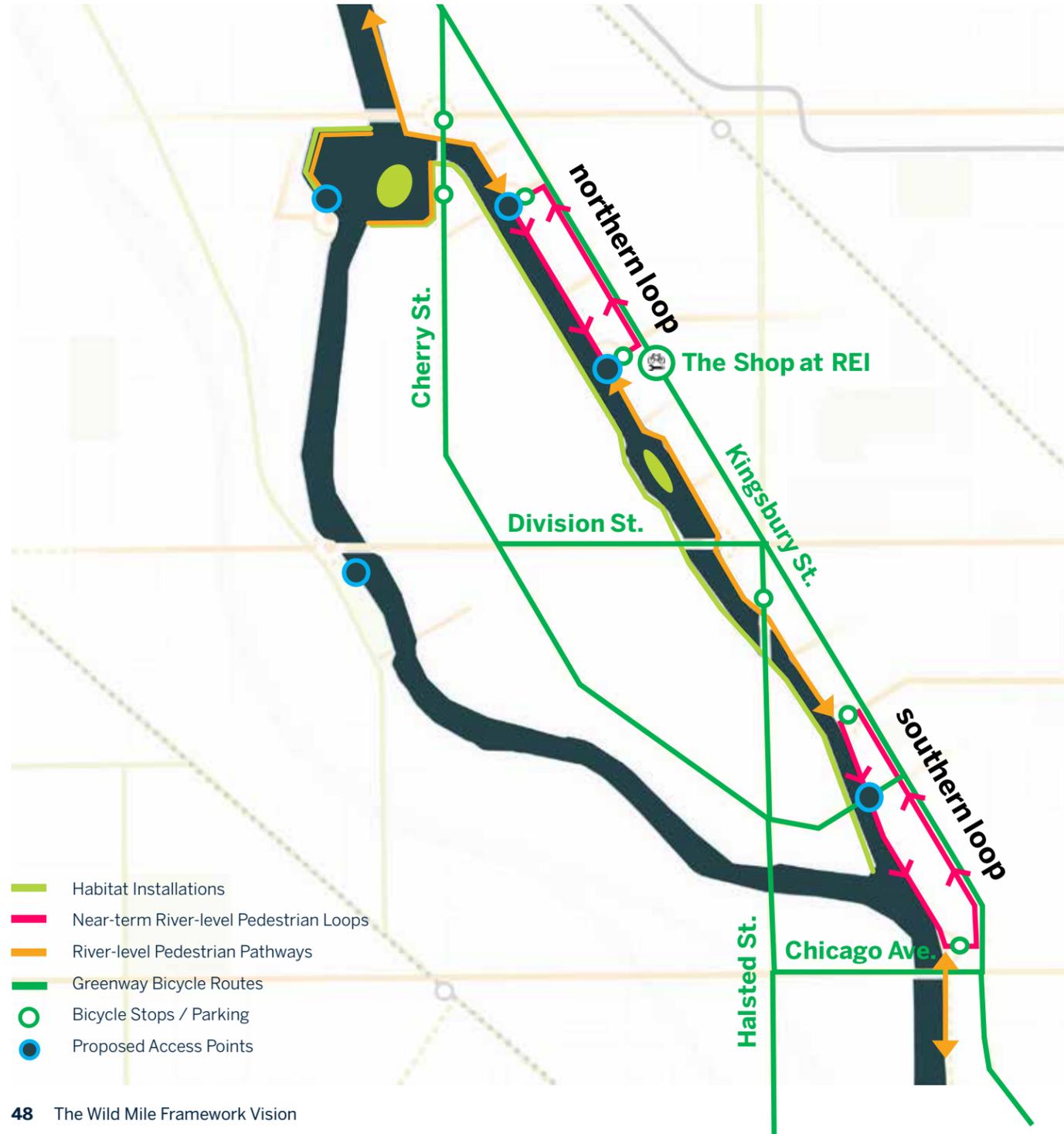


2.3 Create a Place for Everyone

A Place for Everyone

In addition to creating a place for wildlife by implementing habitat on all edges, the Framework Plan should create safe and continuous trails with

multiple, inviting access points from land and water. Connectivity to city-wide trails and greenways is critical.



A Place for Walking and Strolling

The continuous pathway at river-level should be dedicated for pedestrian use only. With wildlife-first in mind, this approach limits habitat disruption while maximizing the boardwalk's use for viewing and interacting with nature. In the near-term, creating "loops" is recommended to establish complete Wild Mile experiences with no deadends. To the north between W. Weed St. and W. Eastman St., building on the existing riverwalks. To the South, between W. Hobbie St. and W. Chicago Ave., building on 600 W. Chicago's riverwalk.



A Place for Biking

During community process we heard that people do not want cyclists at river level. However, participants still thought cyclists should be part of the Wild Mile experience. Cyclists should remain at street level and should be included in any new riverwalk development as per the Chicago Riverwalk Design Guidelines. All access points to the Wild Mile should include bike racks for cyclists to park their bikes before descending to the floating boardwalk.



A Place for Paddling

The Wild Mile is accessible by water from the north at the Turning Basin or from the southern part of Goose Island where the North Branch of the Chicago River and North Branch Canal split. Due to shallow depths and physical obstructions only paddle craft and smaller boats with outboard motors should navigate the Wild Mile north of W. Hobbie St. This makes an ideal setting for kayaking and rowing.

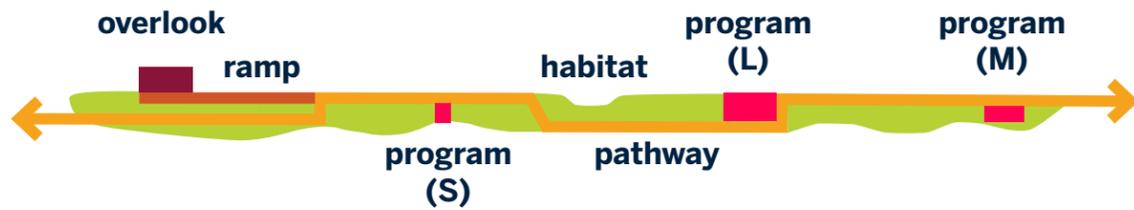


2.3 Create a Place for Everyone

Wild Mile Components

A Kit of Parts

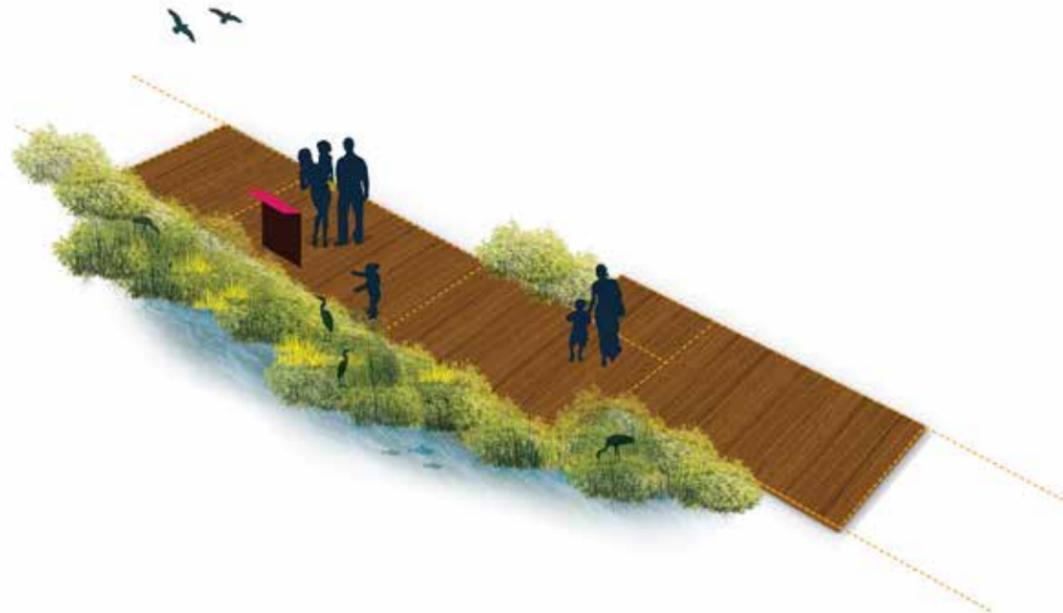
Modular in composition, the Wild Mile will be comprised of series of components. This kit of parts allows for incremental implementation as well as iteration in layout.



Continuous Pathway

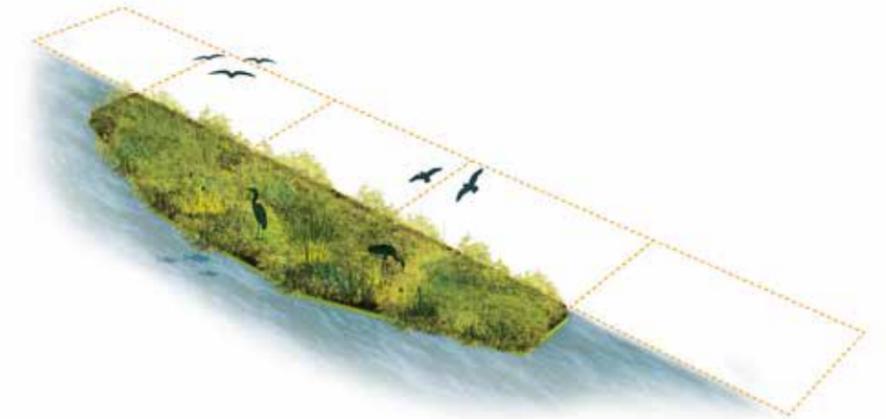
The framework envisions a floating boardwalk comprised of modular dock elements faced with wood or composite decking. The pathway should be 7'-8' in width and run the length of the Wild

Mile. In order to promote a more natural feeling environment, the pathway should meander with straight lengths of no greater than 200'.



Floating Habitat Rafts

The majority of habitat installations within the North Branch Canal will be floating. BioMatrix Water's wetland rafts or other organic floating habitat raft can be utilized. More bouyant rafts can be implemented to support trees and heavier habitat installations.



Floating Tree Raft



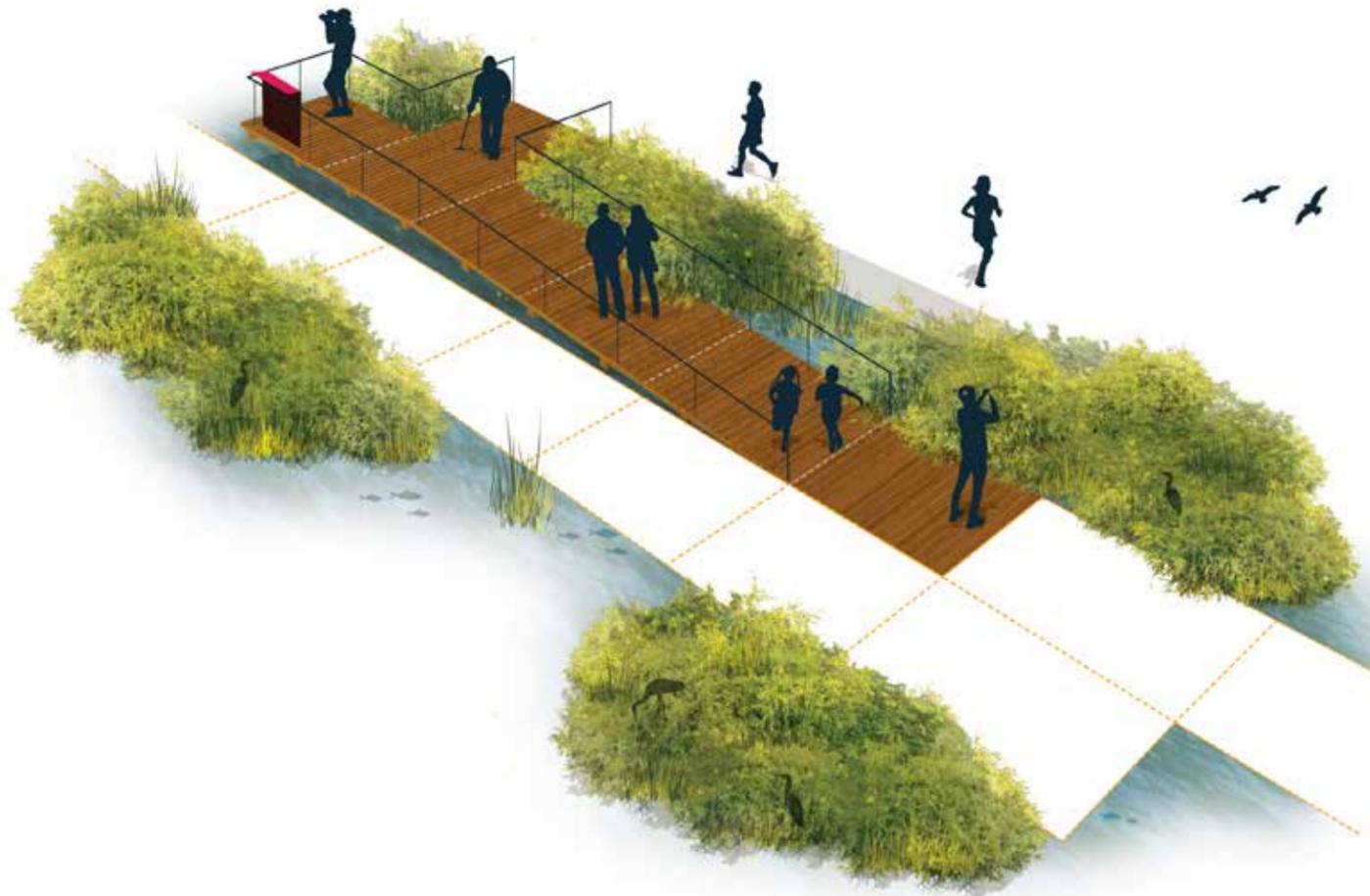
2.3 Create a Place for Everyone

Wild Mile Kit of Components

● Access Ramp

Safe and universally accessible access points are critical to the successful creation of the Wild Mile. Access points should occur at street ends and at midblock points in future developments. ADA

accessible ramps should be implemented at each proposed access point. Each point of entry to the Wild Mile will require a site survey in order to determine design specifications including length.



● Overlook

As a means to create areas of visual access to the Wild Mile, an overlook can be implemented. This element can also be utilized to fix a ramp to, for future access down to river level.



● Gathering Steps

In areas with less than 6' in height change from street/riverwalk to water-level porous concrete steps can be implemented as an additional means of access, as well as, a place to sit and gather.



2.3 Create a Place for Everyone

Wild Mile Kit of Components

Program Platforms

Dock modules can be configured in many different ways in order to create spaces for program and activity off the continuous pathway. The plan puts forth three scales of platform that all work within the allocated 20' from the edge within the Wild Mile. These platforms can be added

onto or reconfigured in the future as navigation requirements are reduced.

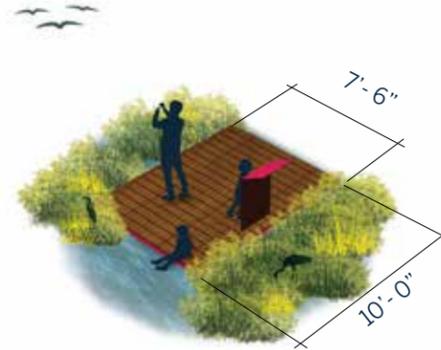
Program platforms should be implemented every 50' to 200' as places for uses, activity, and gathering to occur along the continuous pathway.

Gathering / Classroom Platform (L)

Made up of three 7'-6"x10'-0" and six 4'0" x 5'-0" floating dock modules, a gathering or classroom platform can be utilized by larger groups. This would be an ideal space for an outdoor science lesson, yoga class, or many other group activities.

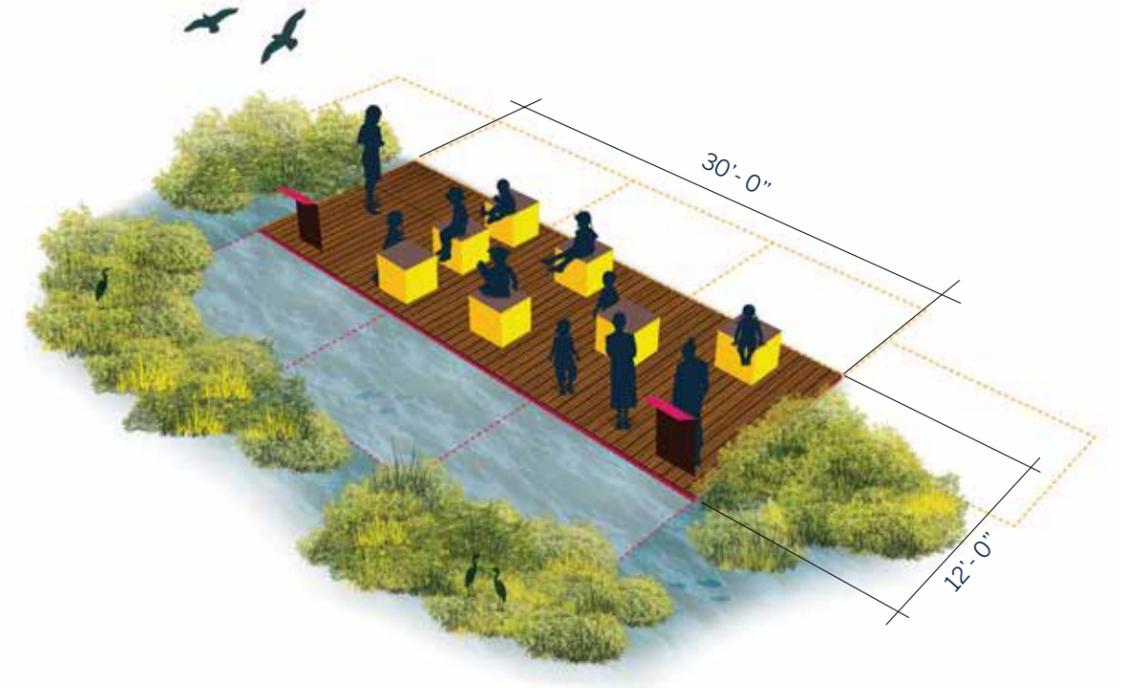
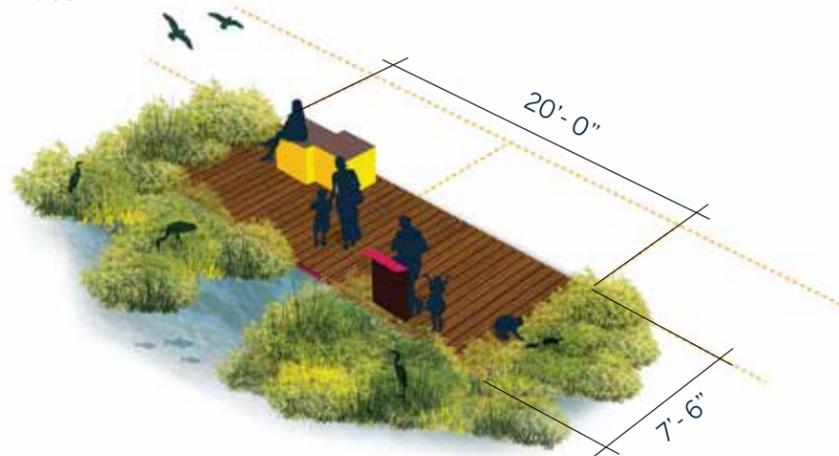
Viewing Pier (S)

Comprised of a single 7'-6"x10'-0" floating dock module, a viewing pier can be occupied by a small number of people, standing or sitting on the edge. Good for birdwatching, fishing, or just viewing.



Activity Platform (M)

Made up of two 7'-6"x10'-0" floating dock modules, an activity platform has room for flexible seating, including hammocks or nets, movable furniture. It can be utilized for a variety of small activities.

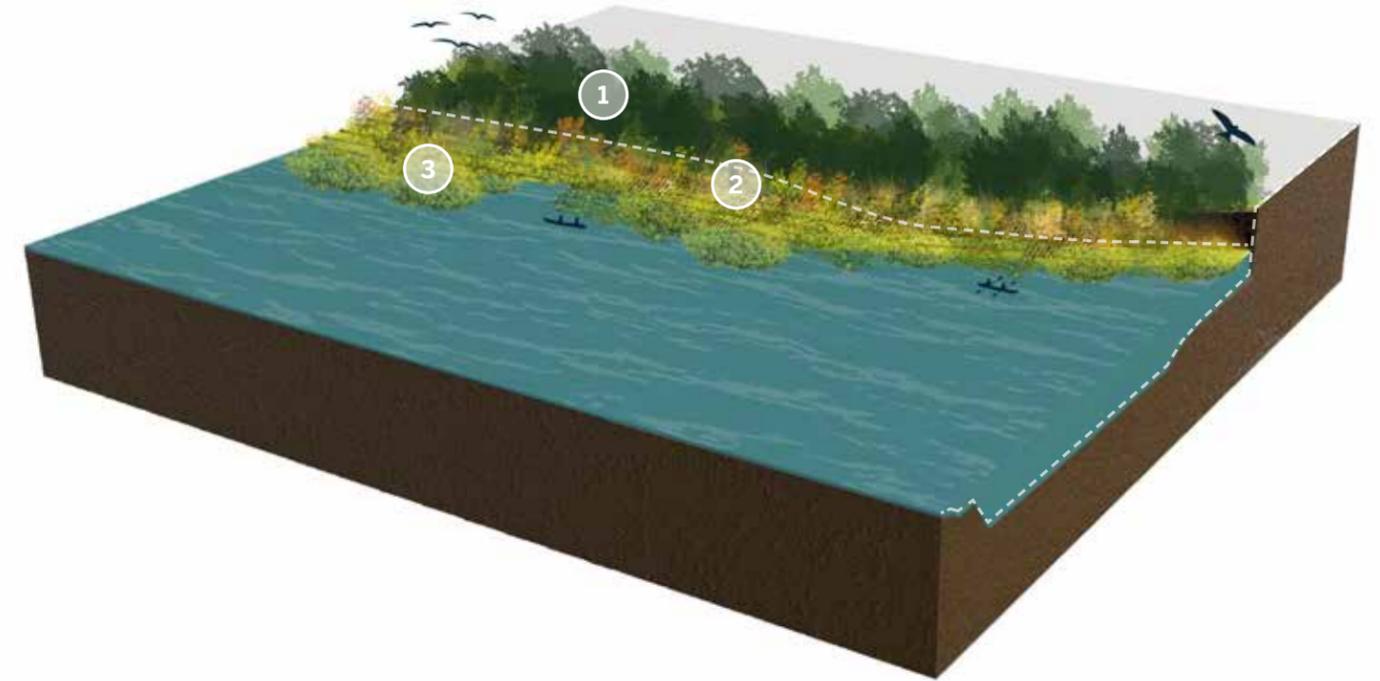
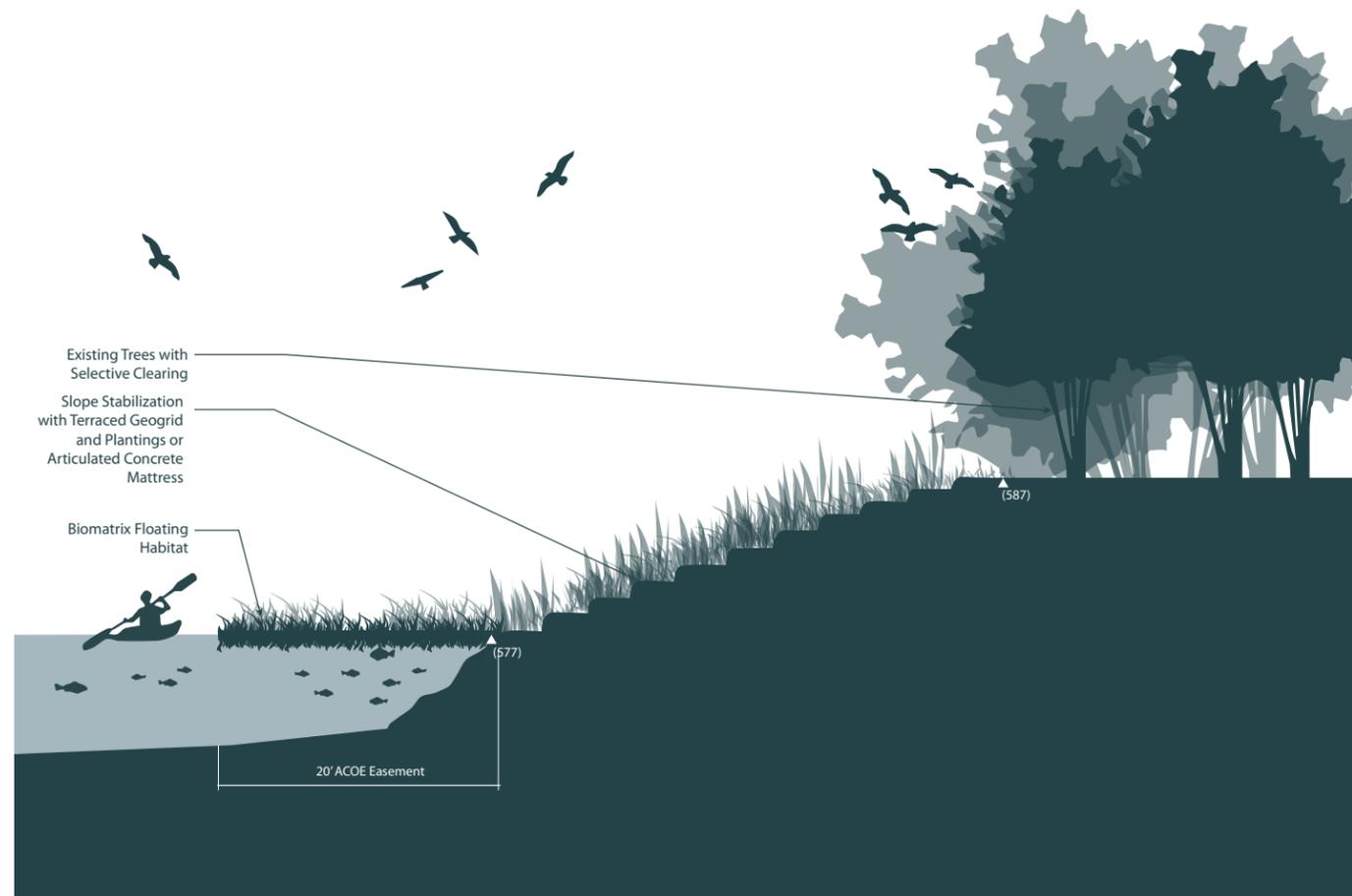


2.4 Connect People with Nature

Wild Mile Proposed Edges

Natural Edge at N. Cherry Ave.

Just south of the Turning Basin, the 'wild side' of the river, or western edge, shall be selectively cleared of invasive species to allow for successional planting along the riverfront. The bank is designed to terrace down towards the river with geogrid and plantings, geocell terraces or an articulated concrete mattress to stabilize the bank and control erosion. Floating habitat rafts, modularly arranged within the easement, will filter water and provide for additional habitat creation.



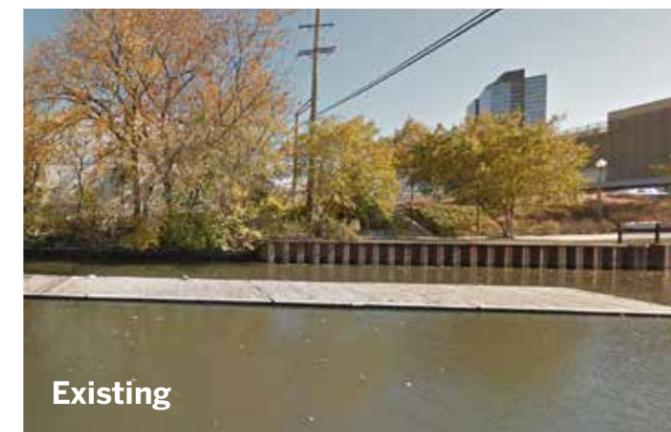
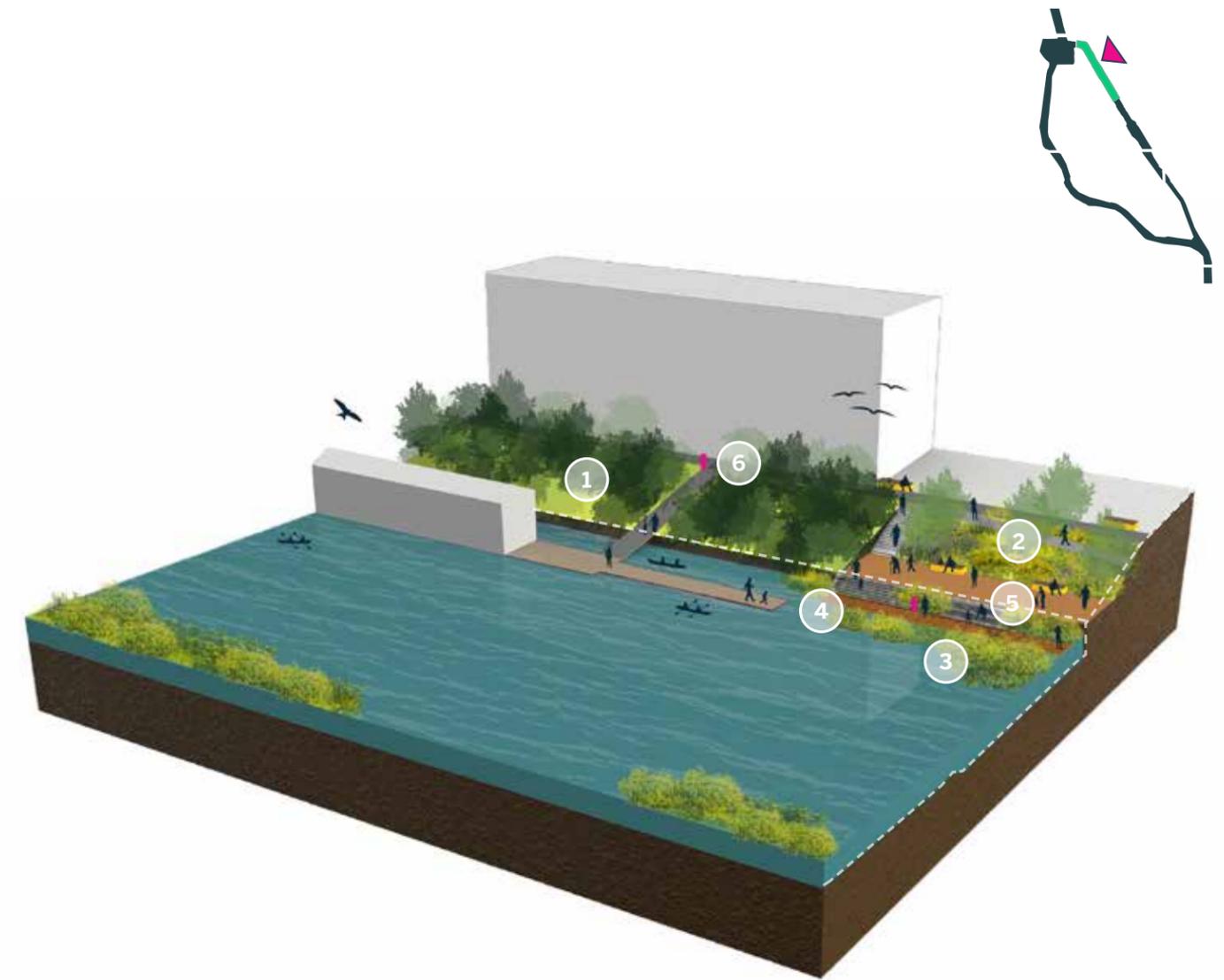
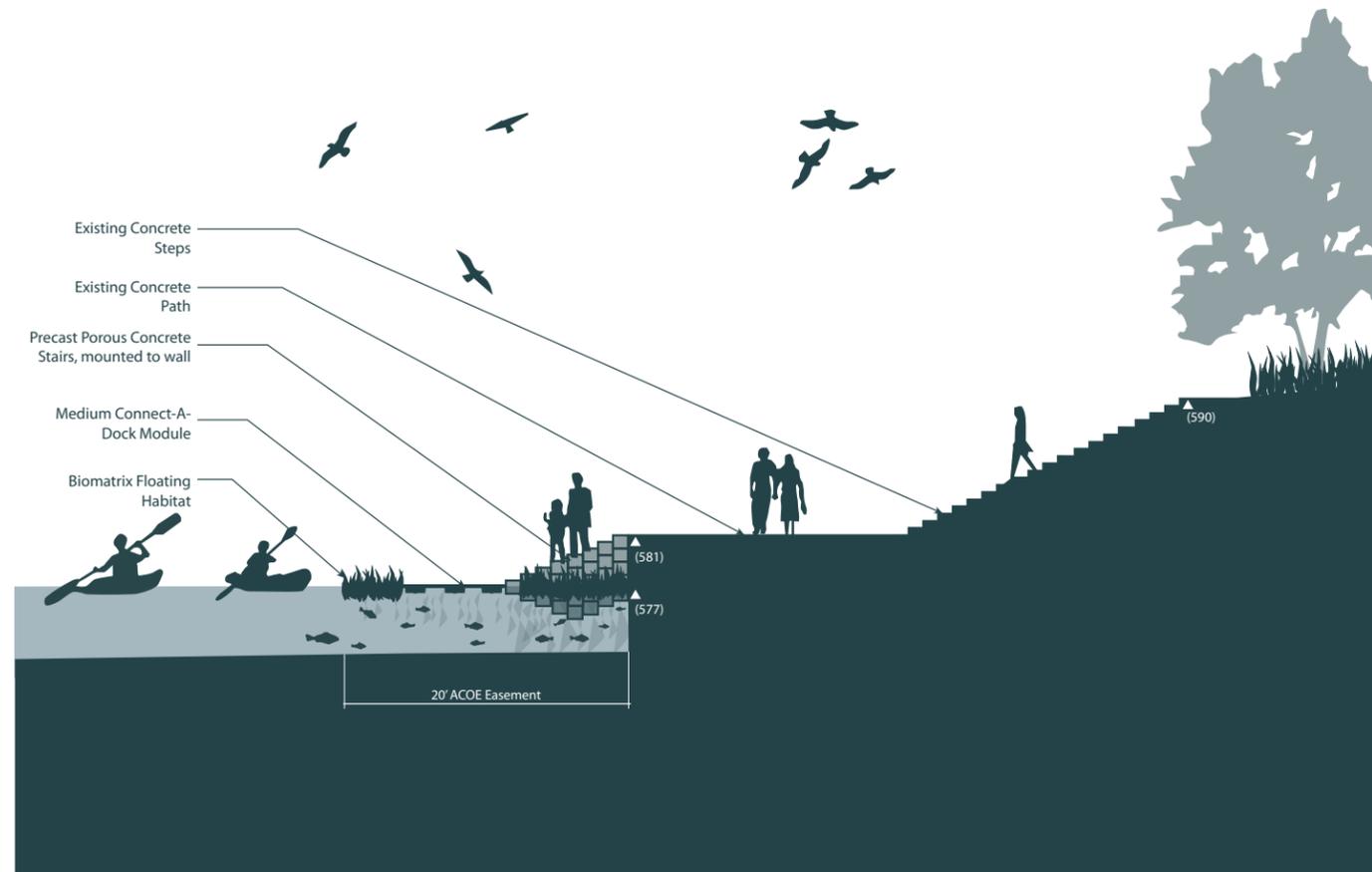
1. Selective clearing of invasive species
2. Slope stabilization with terraced geogrid and plantings or articulated concrete mattress
3. Floating habitat rafts

2.4 Connect People with Nature

Wild Mile Proposed Edges

W. Weed St.

The W. Weed St. access point builds upon the existing Whole Foods riverwalk. Floating sets of porous concrete steps are secured to the sheet pile wall. The steps bring people down to a platform where they can access the river. Floating pathways and floating habitat rafts at the water will soften the edges of constructed elements, while filtering the water and promoting wildlife habitat.



Existing

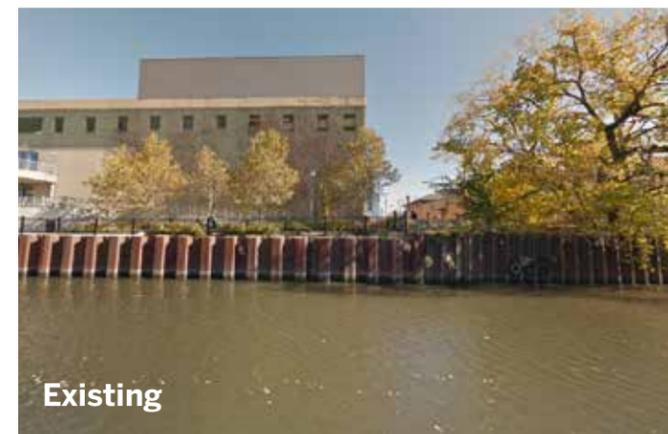
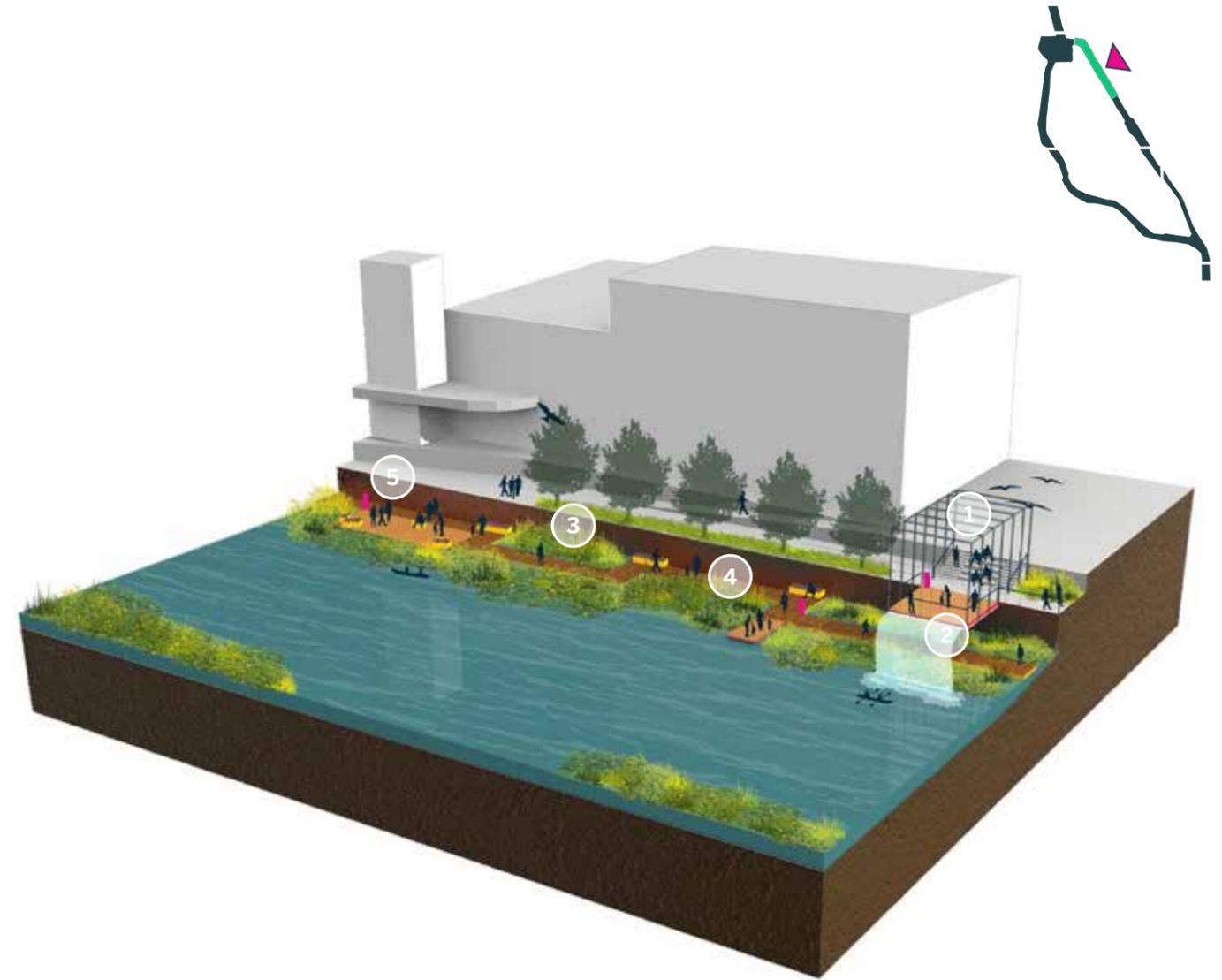
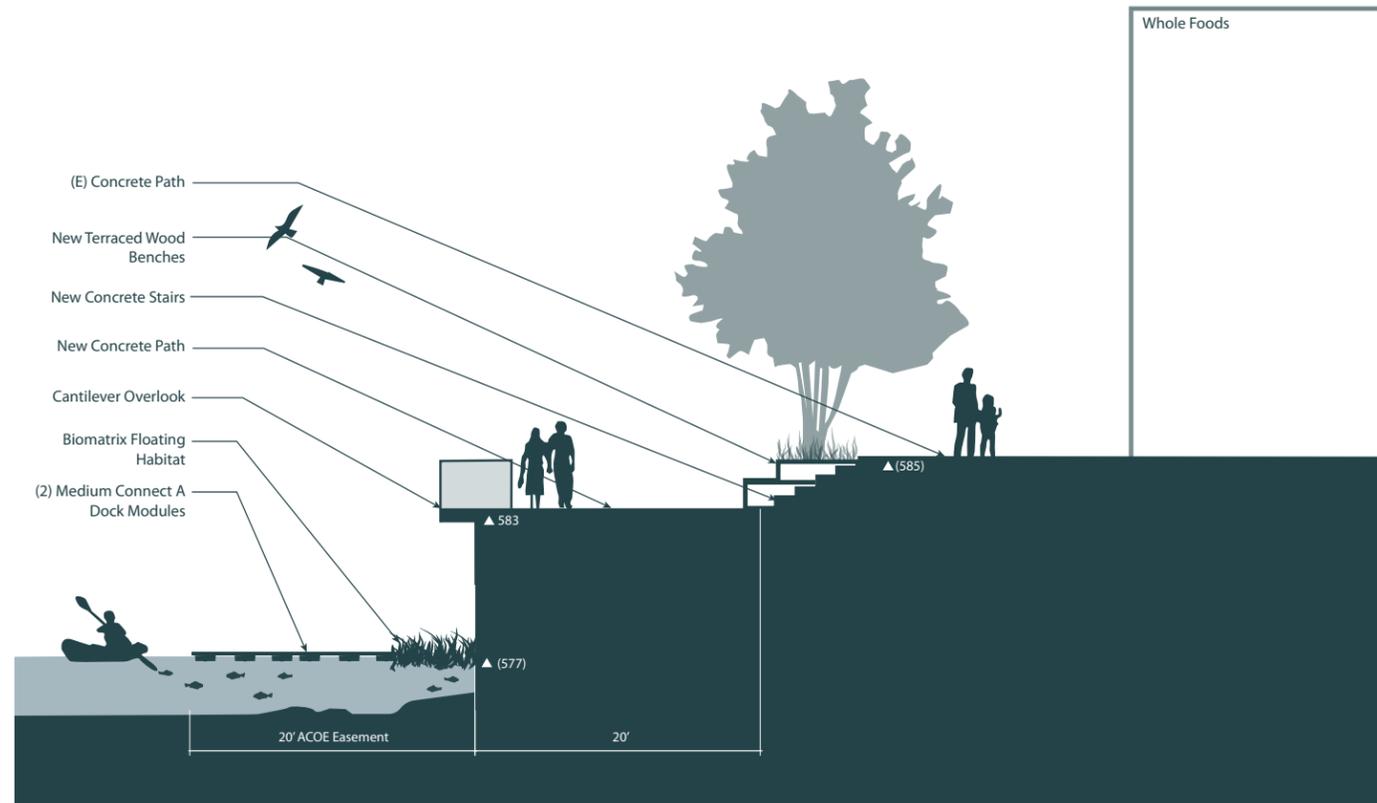
1. Selective clearing of invasive species
2. Slope stabilization with geogrid and plantings
3. Floating habitat rafts
4. Program platform
5. Floating porous concrete steps
6. Interpretive signage

2.4 Connect People with Nature

Wild Mile Proposed Edges

Whole Foods Edge / W. Blackhawk St.

The Wild Mile design will bridge the gap between street grade and the sheet pile wall by stepping down with terraced concrete seating to an overlook. The overlook will also serve as the armature for an aeration waterfall, which will aid in increasing dissolved oxygen levels and overall water quality. At the river are floating boardwalks, which can be accessed from the north and south of W. Blackhawk St. To increase program opportunities at the river, a learning platform will be situated along the floating boardwalk as an early phase. Again, the introduction of modular floating plant habitat will help to cleanse the water and provide additional opportunities for wildlife occupancy.



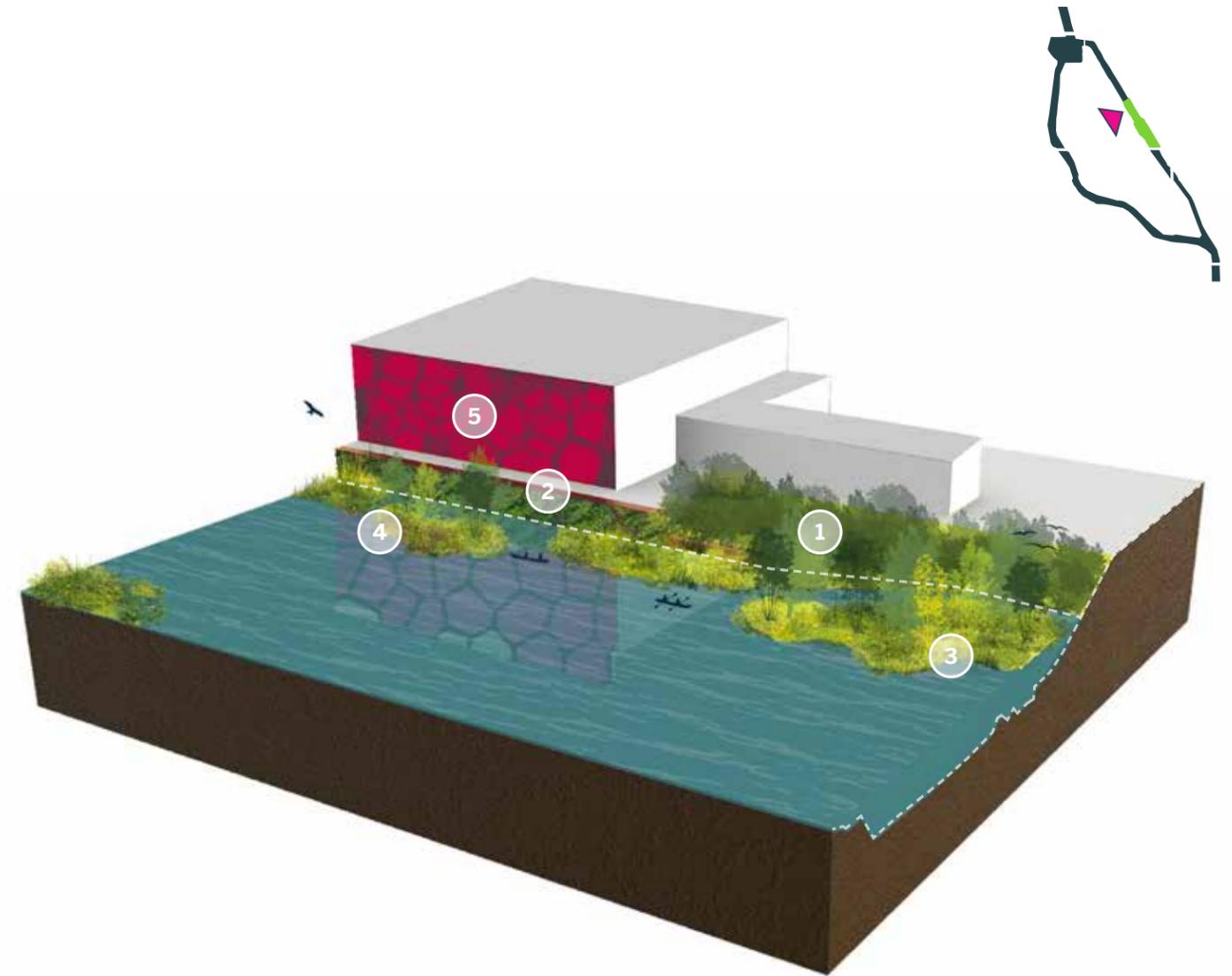
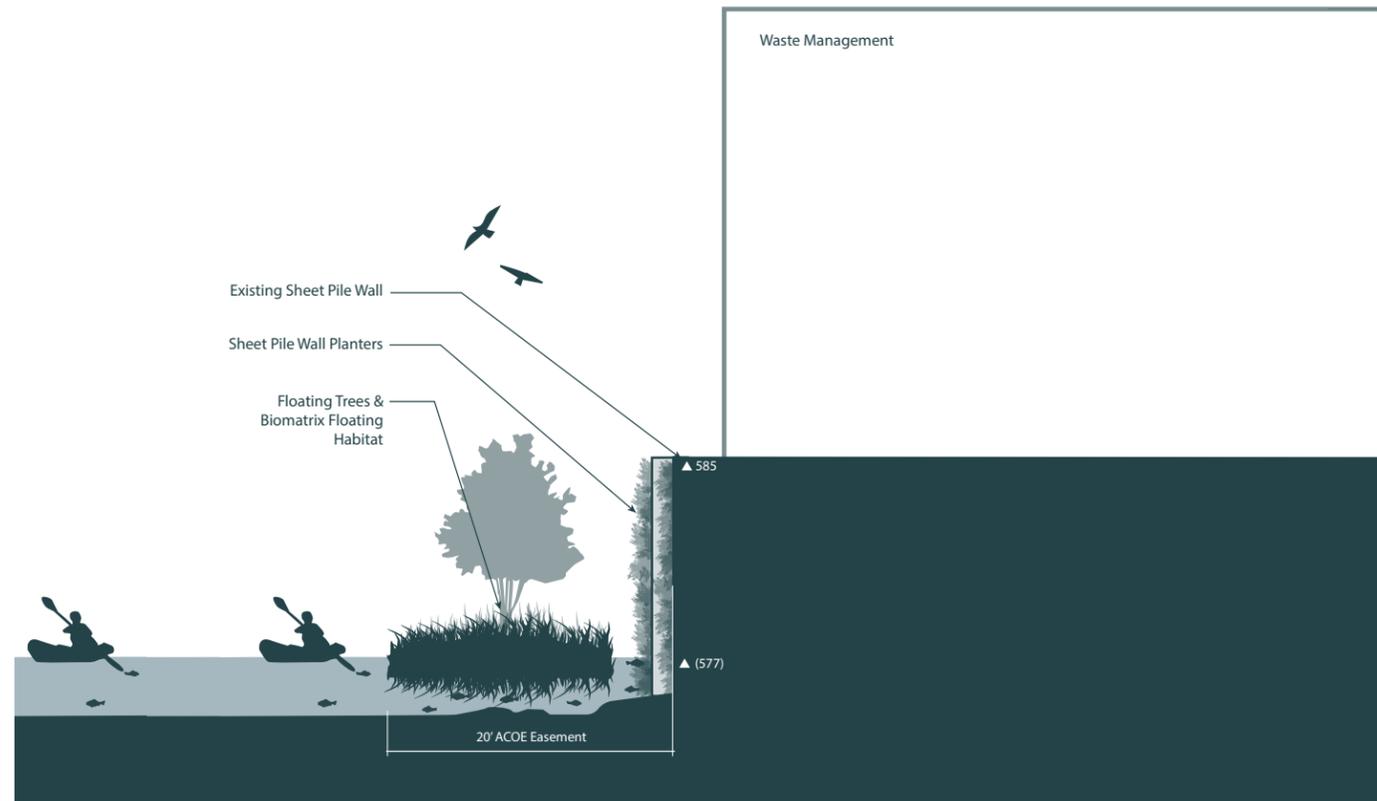
1. Cantilevered platform with overhead structure
2. Aeration waterfall
3. Floating habitat rafts
4. Continuous pathway and program platforms
5. Interpretive signage

2.4 Connect People with Nature

Wild Mile Proposed Edges

Waste Management Edge

The existing blank facade of the Waste Management Transfer Station is reimaged as a canvas for art. This vertical surface is also ideal to attach purple martin houses and other habitat features. This side of the canal is critical migratory bird habitat and installations should support them. The existing sheet pile wall will host a living green wall of appropriate native plant species. Just north of the transfer station, the sloped edge will be cleared of invasive species and stabilized to promote a healthy, naturalized river edge, while controlling erosion. Extra bouyant floating habitats will sustain trees as well as other submergent and emergent plants to filter river water and promote diverse habitat above and below the water's surface.



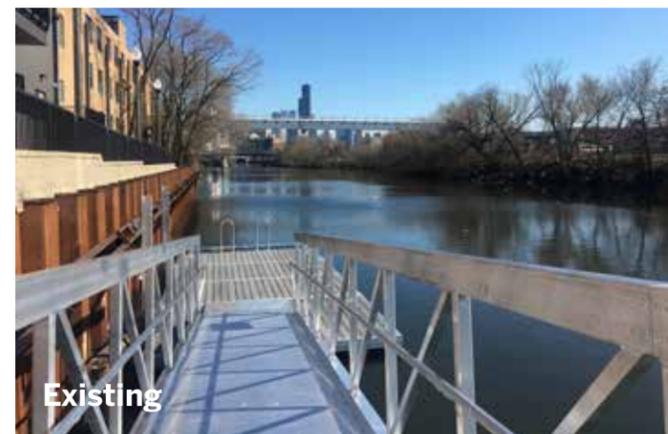
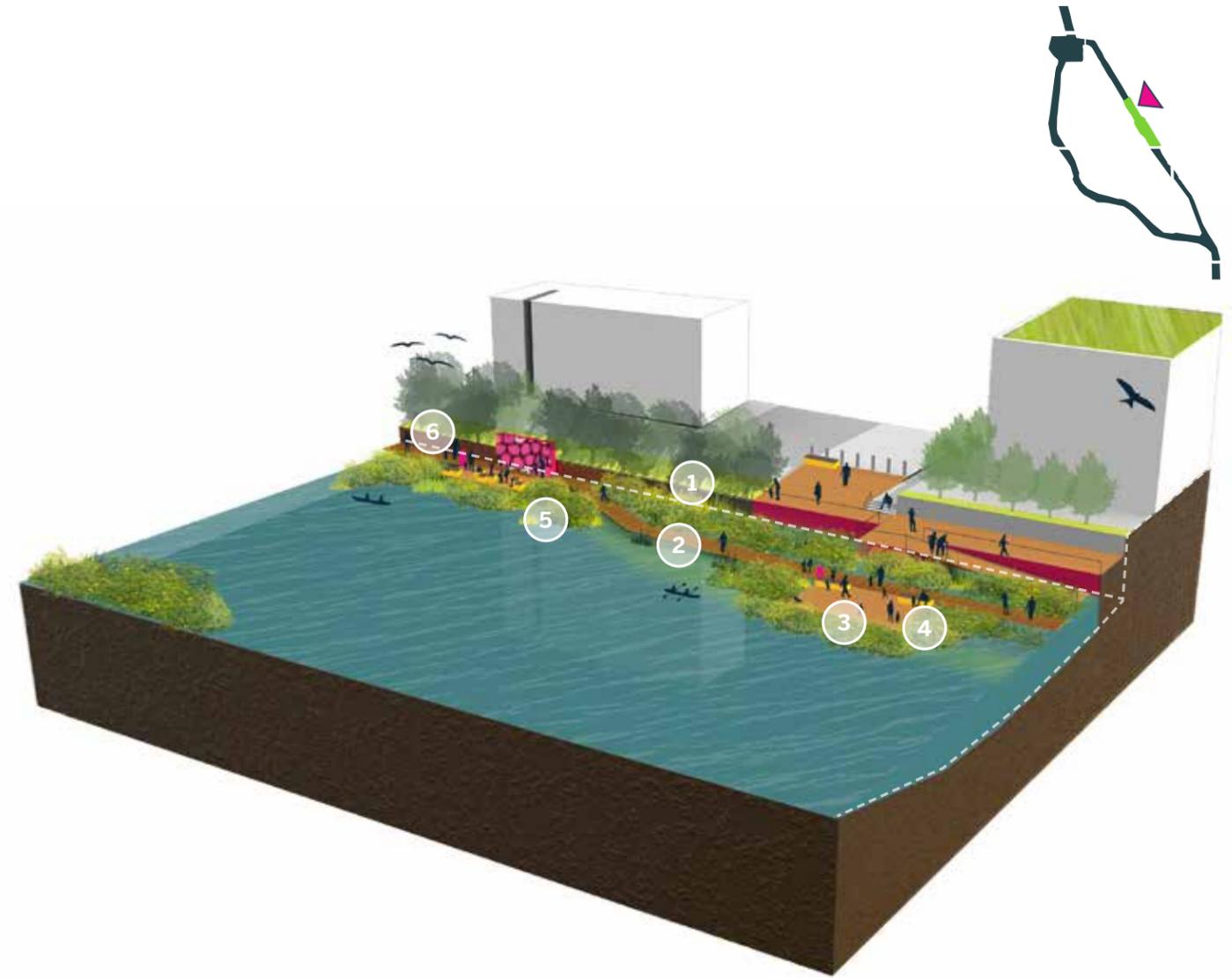
1. Selective clearing of invasive species
2. Sheet pile wall planters
3. Floating habitat rafts
4. Floating trees
5. Mural

2.4 Connect People with Nature

Wild Mile Proposed Edges

W. Eastman St. / REI

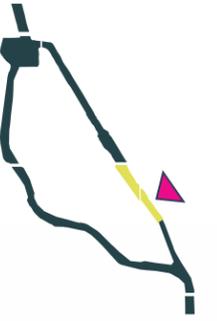
With the completion of the REI riverwalk, kayak launch and ramp down to river level, a new access point to the Wild Mile has been established for both pedestrians and paddlers. Sections of floating boardwalk can connect to this access point and establish a continuous pedestrian pathway to the north. In the near-term, the new learning platform will connect in line with W. Eastman St. A floating art platform in the river at the edge of Carbit Corporation is designed to engage people in art programming. Modular floating habitats will filter water and provide additional wildlife habitat.



1. Selective clearing of invasive species
2. Continuous pathway
3. Program platforms
4. Kayak launch
5. Floating habitat rafts
6. Interpretive signage

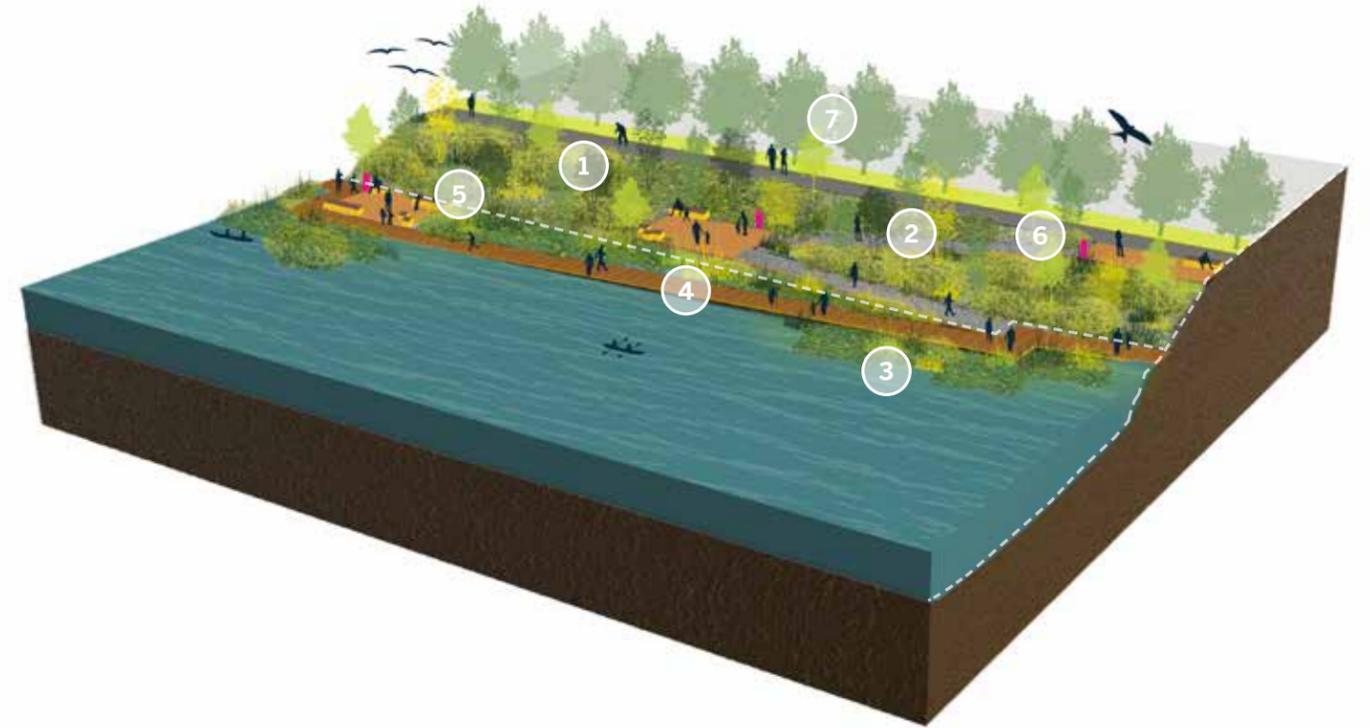
2.4 Connect People with Nature

Wild Mile Proposed Edges



W. Hobbie St. Cove

Hobbie Cove's existing rip rap slope will be re-designed and stabilized with plants, rooted in geogrid. An accessible, stabilized gravel path will traverse the slope to bring people down to the floating boardwalk at the river. Platforms along the path and on the river will serve as programmed spaces. These spaces host seating as well as wayfinding / educational signage to demonstrate key aspects of the Wild Mile design and habitat. Hobbie Street does not currently extend to the river. The Wild Mile team will need to work with the property owner to provide public access as part of the redevelopment of the site.



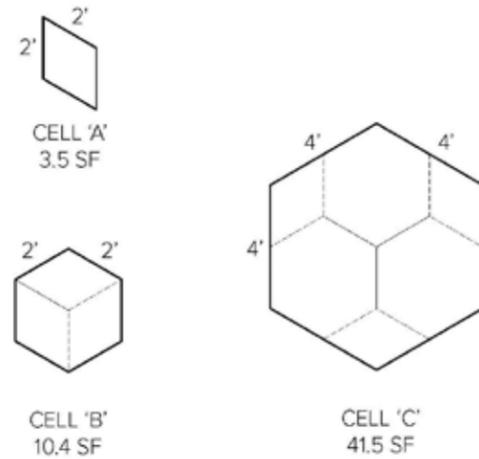
1. Slope stabilization with geogrid and plantings
2. Stabilized gravel pathways
3. Floating habitat rafts
4. Continuous pathway
5. Program platforms
6. Interpretive signage
7. Native trees along Riverwalk

2.5 Lead the World

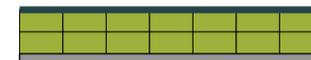
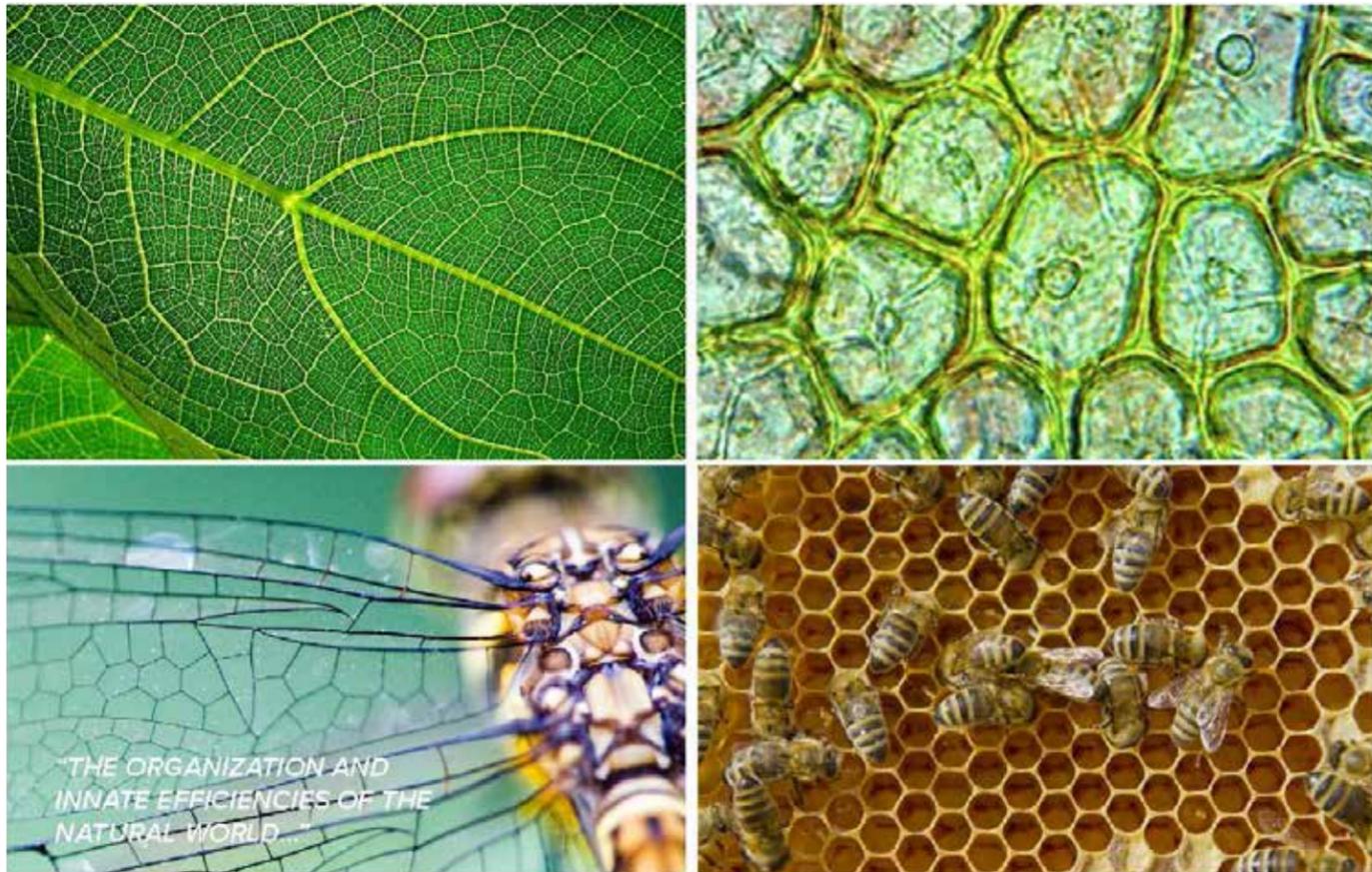
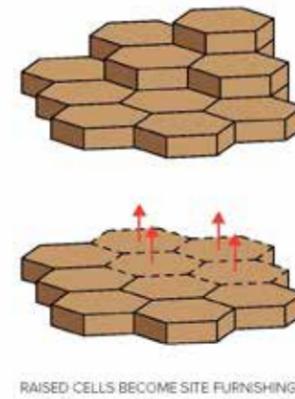
Ecologically Inspired Modular Design

A hard-lined edge limits the opportunities for habitat. By varying the ins and outs of an edge formed by vegetation, opportunities for successful habitats are multiplied. Rivers are naturally dynamic. They meander, grow and bend over time. By way of a modular approach we can aggregate angular floating wetland rafts to mimic the curves of nature.

Presently, the palette of habitat rafts is triangular or rectangular in shape. Through iteration and innovation, the goal for development and organization of these floating wetland modules is that their designs and layouts draw from the organization and innate efficiencies of the natural world.

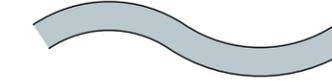
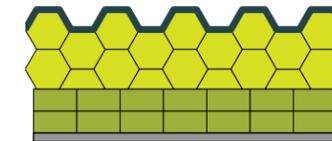


"...TRANSLATED INTO THE BUILT ENVIRONMENT"



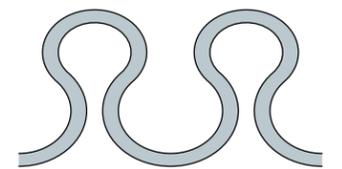
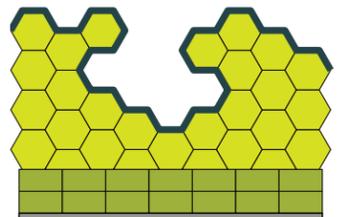
1 | now

A hard-lined edge limits opportunities for habitat



2 | next

vary the edge, reintroduce more opportunities for habitat



3 | future

Rivers are naturally dynamic - grow + phase the threshold over time



03 Framework Plan

3.1 A Modular Approach

3.2 The Turning Basin

3.3 The North Reach

3.4 The South Reach

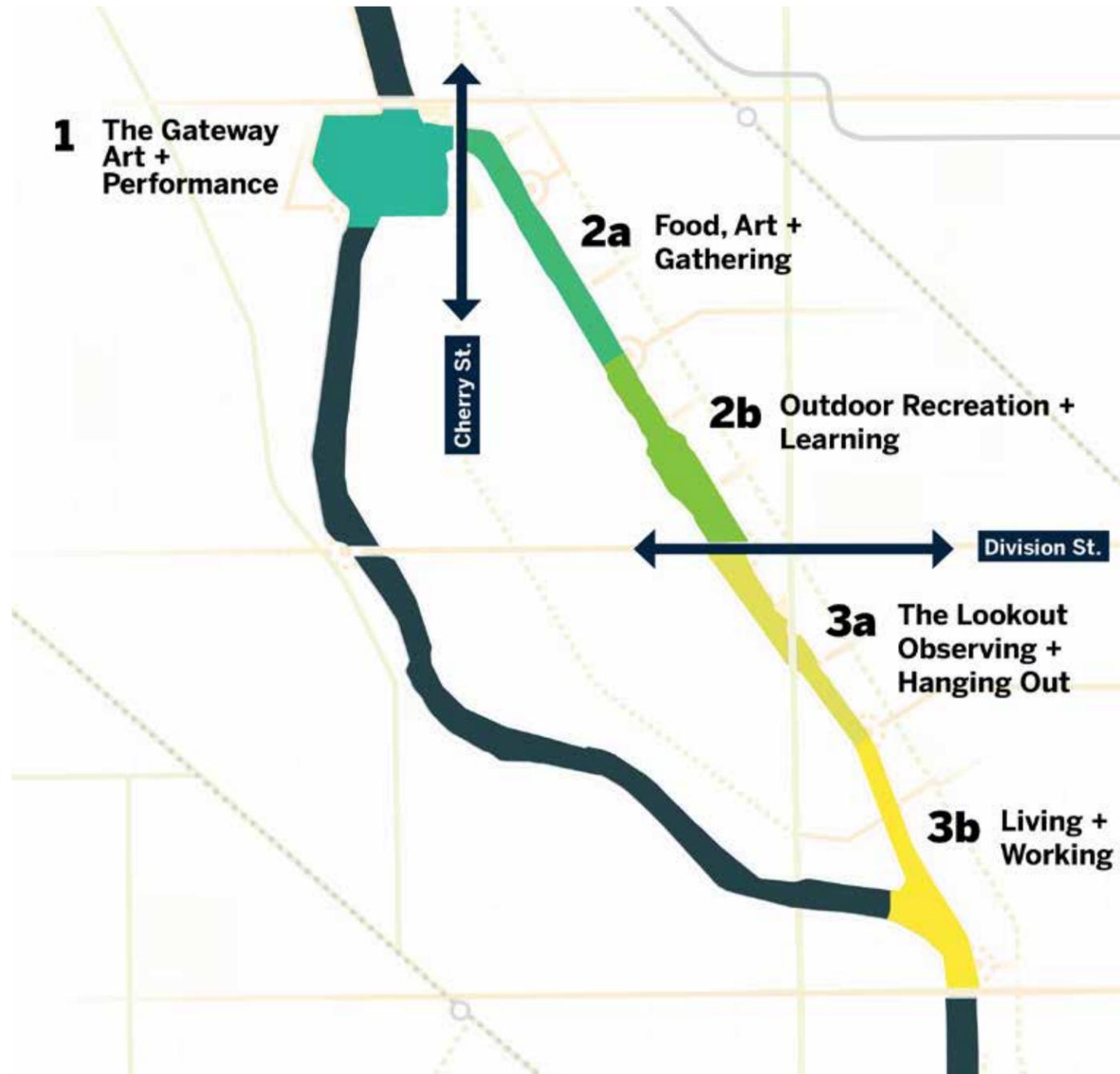


3.1 A Modular Approach

Designing a Cohesive Experience

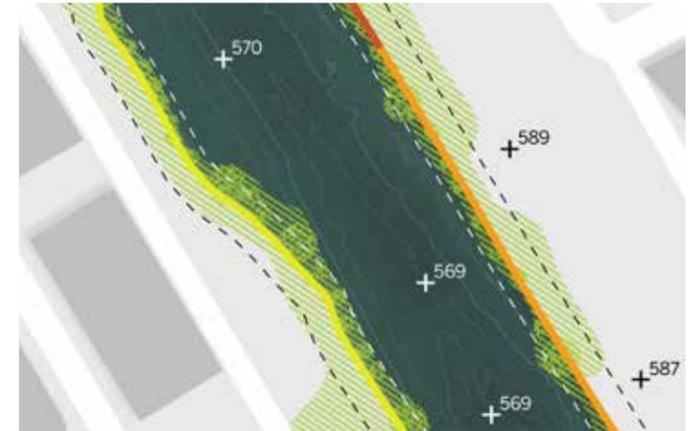
The Wild Mile Framework Plan calls for an innovative modular approach. This method allows for the trail system and habitat components to be incrementally installed. It also allows for the ability to iterate and adapt the design in order to best fit the needs

of both wildlife and local property owners. In the following pages, existing conditions, habitat and programming and proposed Framework for each Reach is illustrated.



Existing Conditions

This illustrates the current edge conditions and wall types for each Reach. It will determine the type of habitat installations that can be implemented on the edges.



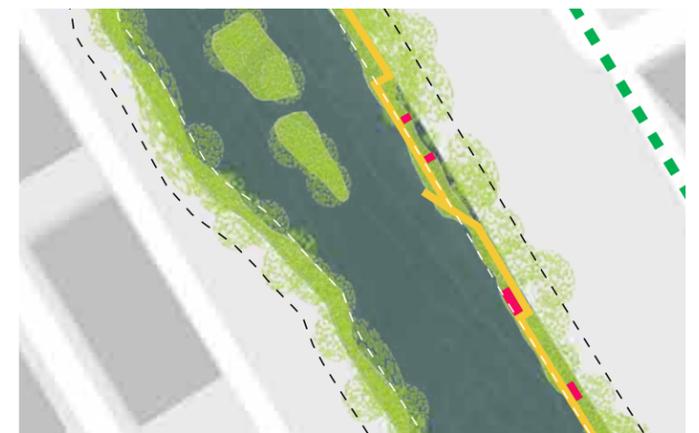
Habitat and Programming

For each Reach the habitat and programming has been developed based on the feedback collected through community engagement.



Proposed Framework

The proposed Framework takes the input received from the community and the research on habitat needs to create a cohesive Framework Plan.

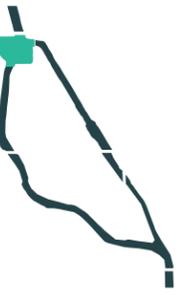


3.2 The Turning Basin

Existing Conditions

The Turning Basin Reach is bounded by W. North Ave., N. Magnolia Ave., W. LeMoynes St. and W. Cherry Ave. The focus of this Reach is Arts and Performance and it is the Gateway to the Wild Mile.

- + Spot Elevations
 - Existing Access Points
 - Sheetpile Edge
 - Heavy Timber
 - Concrete
 - Water Taxi Stop
 - Limestone
 - Naturalized
 - Rip Rap
 - Sewer Outfalls
 - Future Parks
- Chicago City Datum (CCD)
579.88ft



3.2 The Turning Basin Habitat + Programming



Theme: The Gateway, Art + Performance

- Nature amphitheater
- Sculpture rookery / perch
- Floating performance
- Floating boardwalks + wetlands
- Pop-Up Plaza
- Naturalized edges
- Swimming areas
- Feeding areas animals

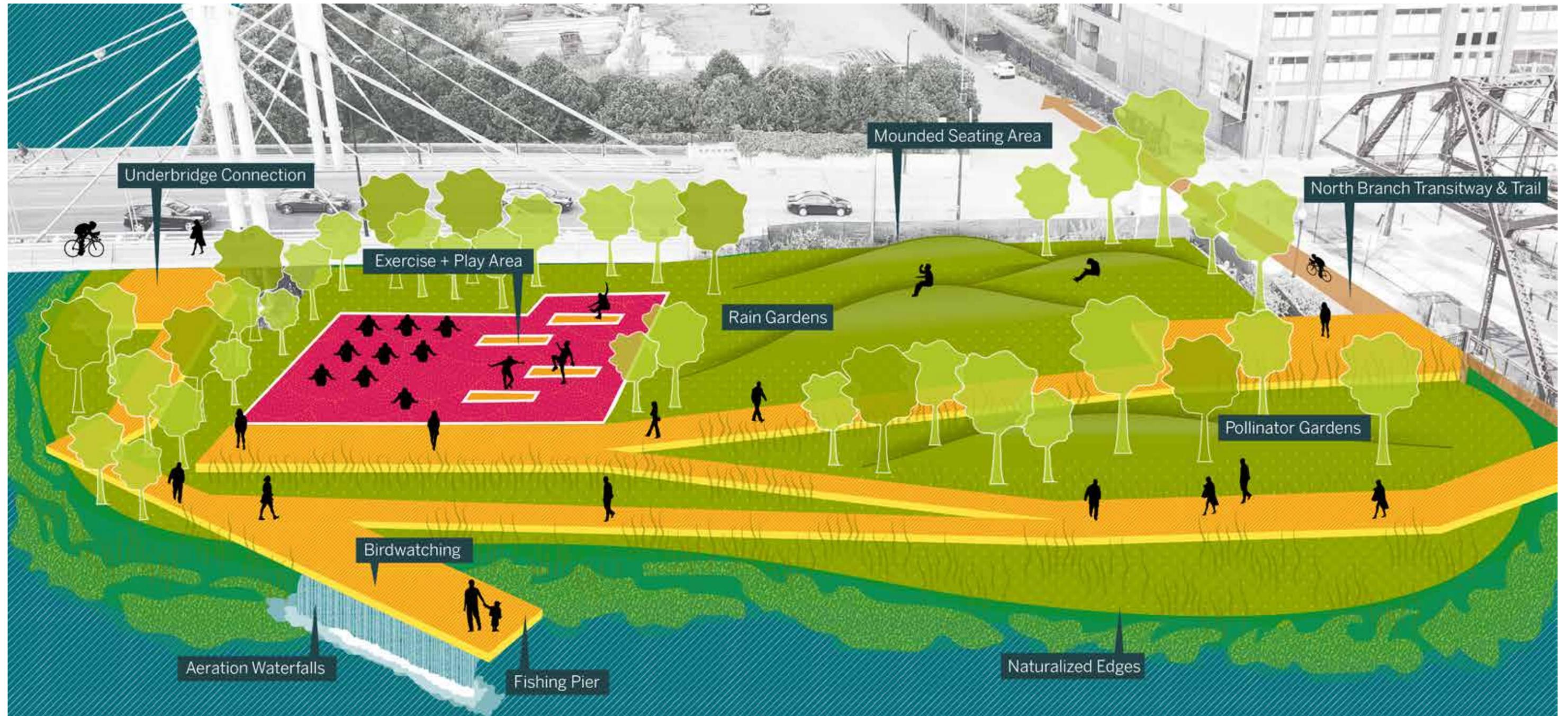


3.2 The Turning Basin Habitat + Programming



Theme: The Gateway, Art + Performance

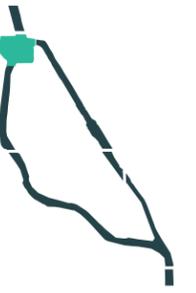
- Mounded areas
- Bird watching
- Exercise + play areas
- Fishing pier
- Rain gardens
- Pollinator gardens
- Aeration waterfalls
- Naturalized edges



3.2 The Turning Basin

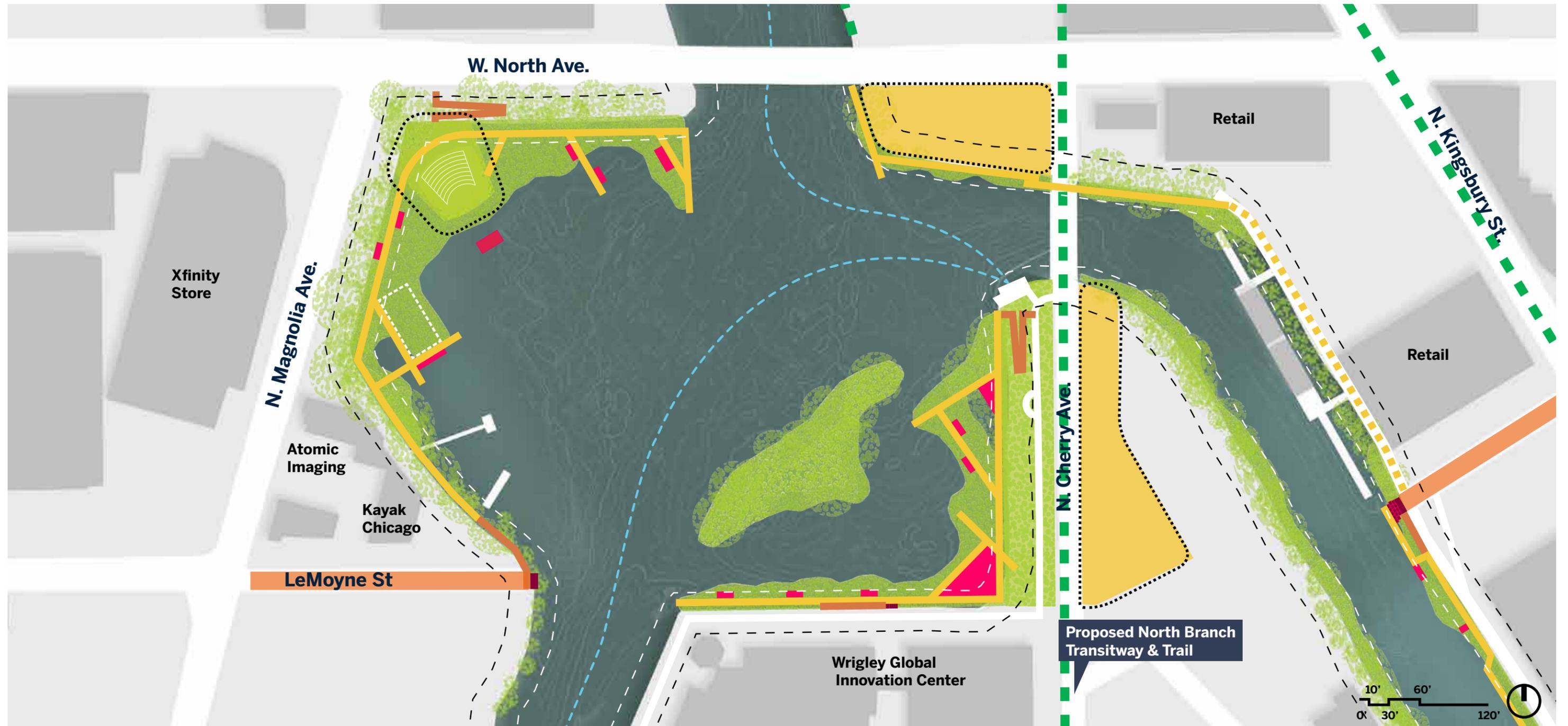
Proposed Framework

- Floating Pathway
 - Access
 - Overlooks
 - Floating Program Platforms
 - Habitat
 - New Public Spaces
 - Proposed Greenway
 - Water Taxi Route
- Chicago City Datum (CCD) 579.88ft



The Turning Basin is undergoing a Section 1135 Feasibility Study for re-naturalizing it's edges. Improvements to this reach will be longer term and

will require further research to determine ecological value, feasibility for larger habitat installations, such as a rookery and best placement for such features.



3.2 The Turning Basin Conceptual Vision



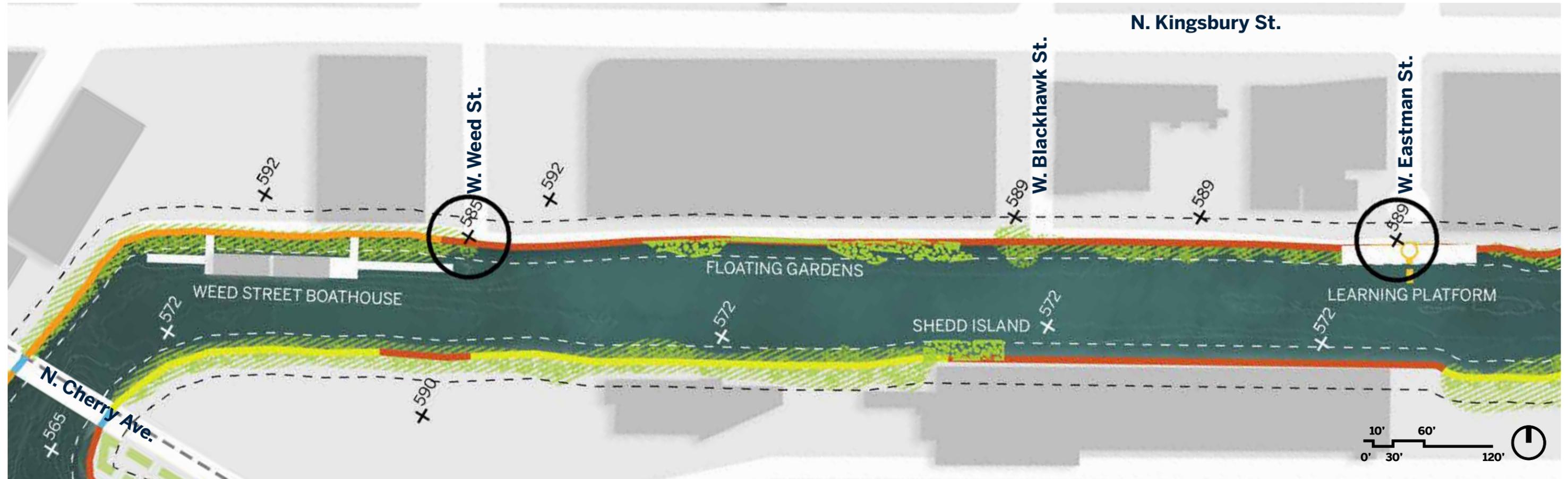
3.3 The North Reach

Existing Conditions

- + Spot Elevations
 - Existing Access Points
 - Sheetpile Edge
 - Heavy Timber
 - Concrete
 - Limestone
 - Naturalized
 - Rip Rap
 - Sewer Outfalls
 - Future Park 579.88ft
- Chicago City Datum (CCD)
579.88ft



The North Reach segment 2A is bounded by the N. Cherry Ave. bridge to the north and W. Eastman St. to the south.



3.3 The North Reach

Habitat + Programming



Theme: Food, Gathering + Art

- Picnic areas
- Gathering steps
- Nature Cinema / Projection wall or mural
- Rooftop Events
- Shallow water / spawning grounds
- Bubble line aerators
- Pollinator hotels
- Habitat Sculptures



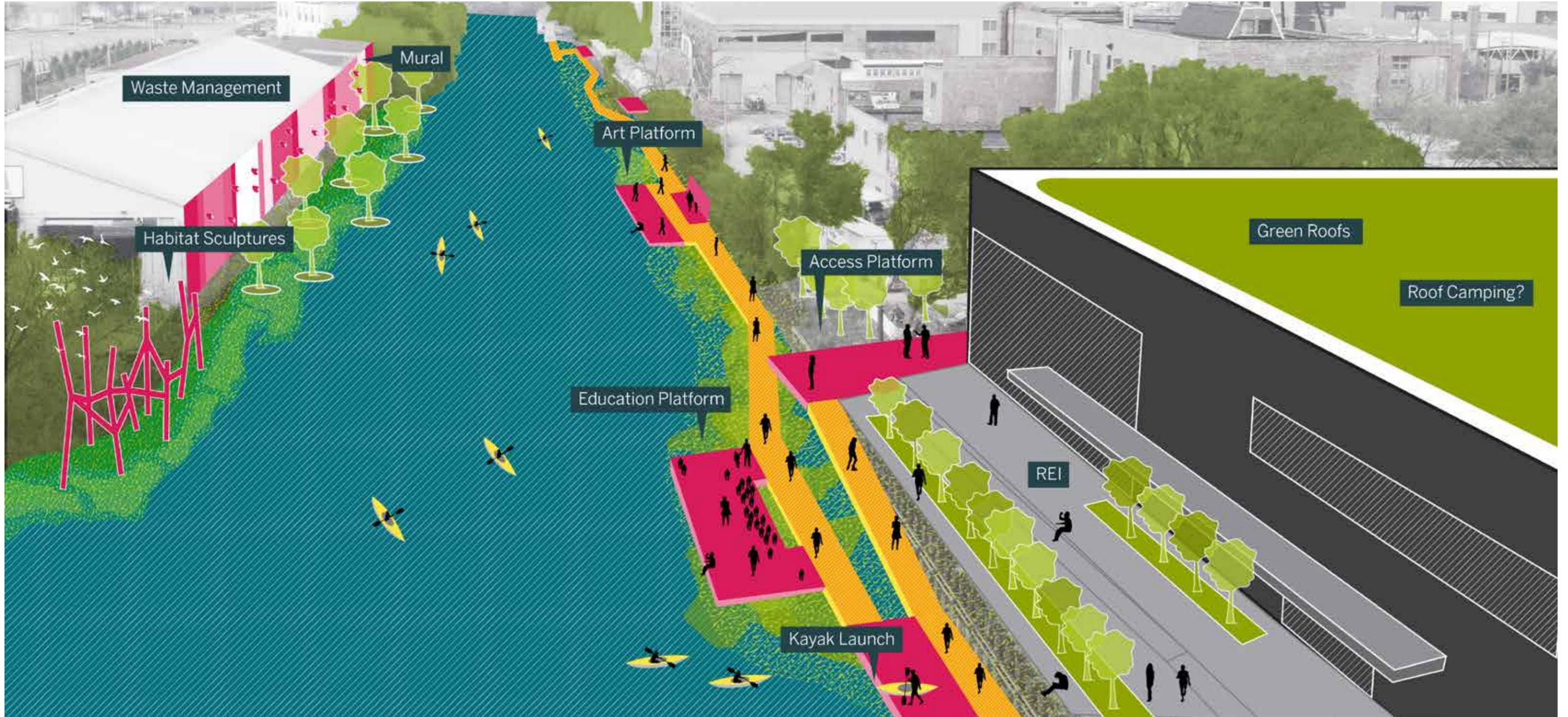
3.3 The North Reach

Habitat + Programming



Theme: Food, Gathering + Art / Outdoor Learning + Recreation

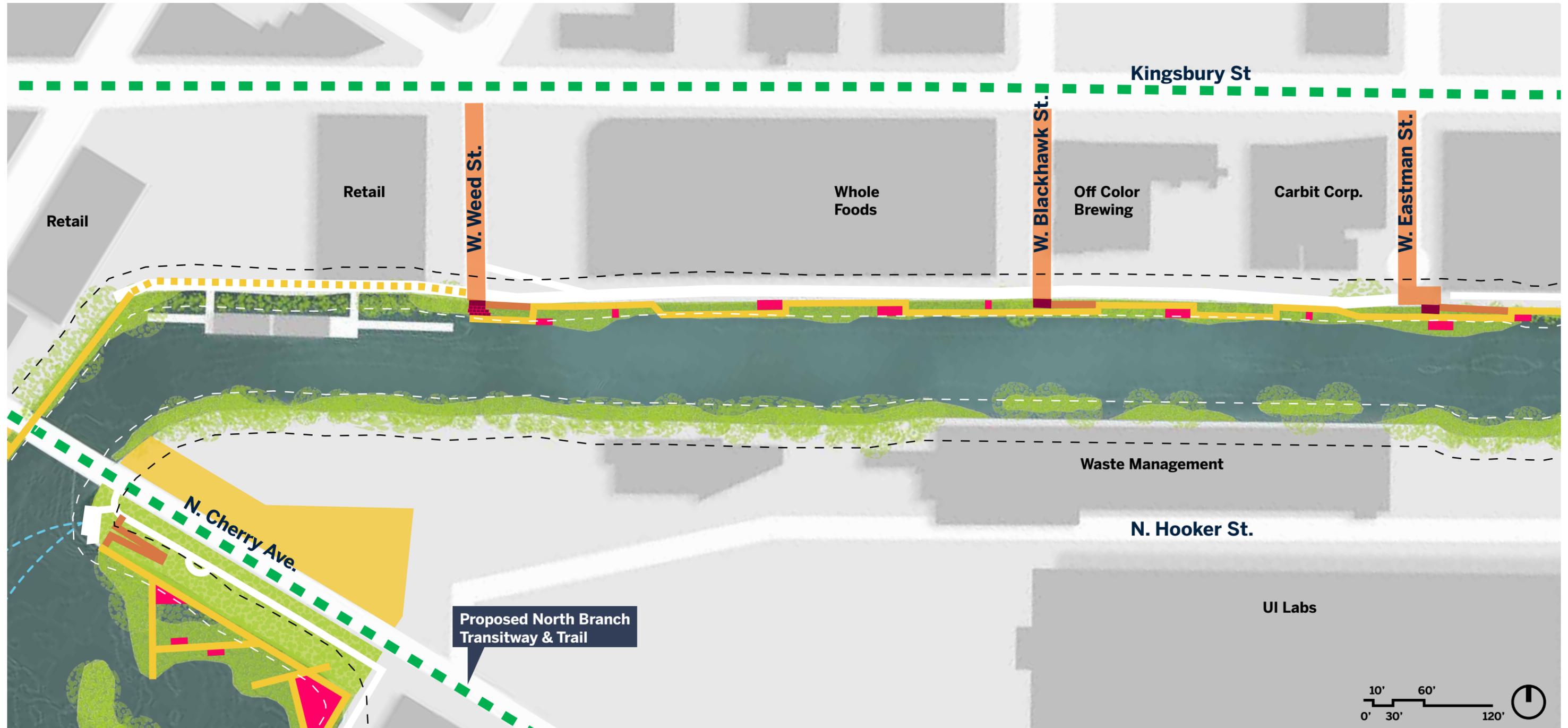
- Art / Education program platforms
- Murals
- Kayak launch
- Aeration sculptures
- Floating trees
- Purple Martin houses
- Pollinator roof gardens
- Roof camping



3.3 The North Reach

Proposed Framework

- Floating Pathway
- Access
- Overlooks
- Floating Program Platforms
- Habitat
- New Public Spaces
- Proposed Greenway
- Water Taxi Route



3.3 The North Reach

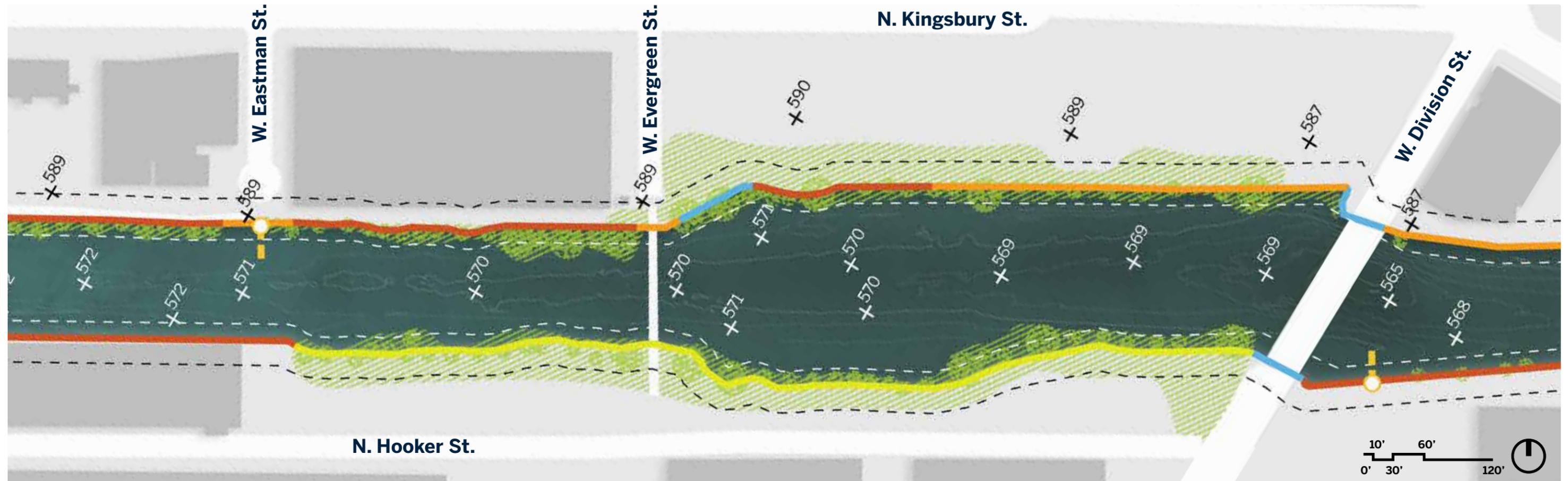
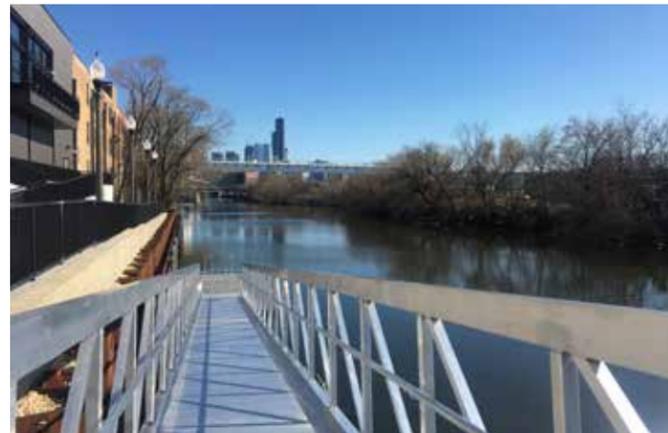
Existing Conditions

- + Spot Elevations
- Existing Access Points
- Sheetpile Edge
- Heavy Timber
- Concrete
- Limestone
- Naturalized
- Rip Rap
- Sewer Outfalls
- Future Parks

Chicago City Datum (CCD)
579.88ft



The North Reach segment 2b is the stretch of river between W. Eastman St. to the north and W. Division St. bridge to the south.



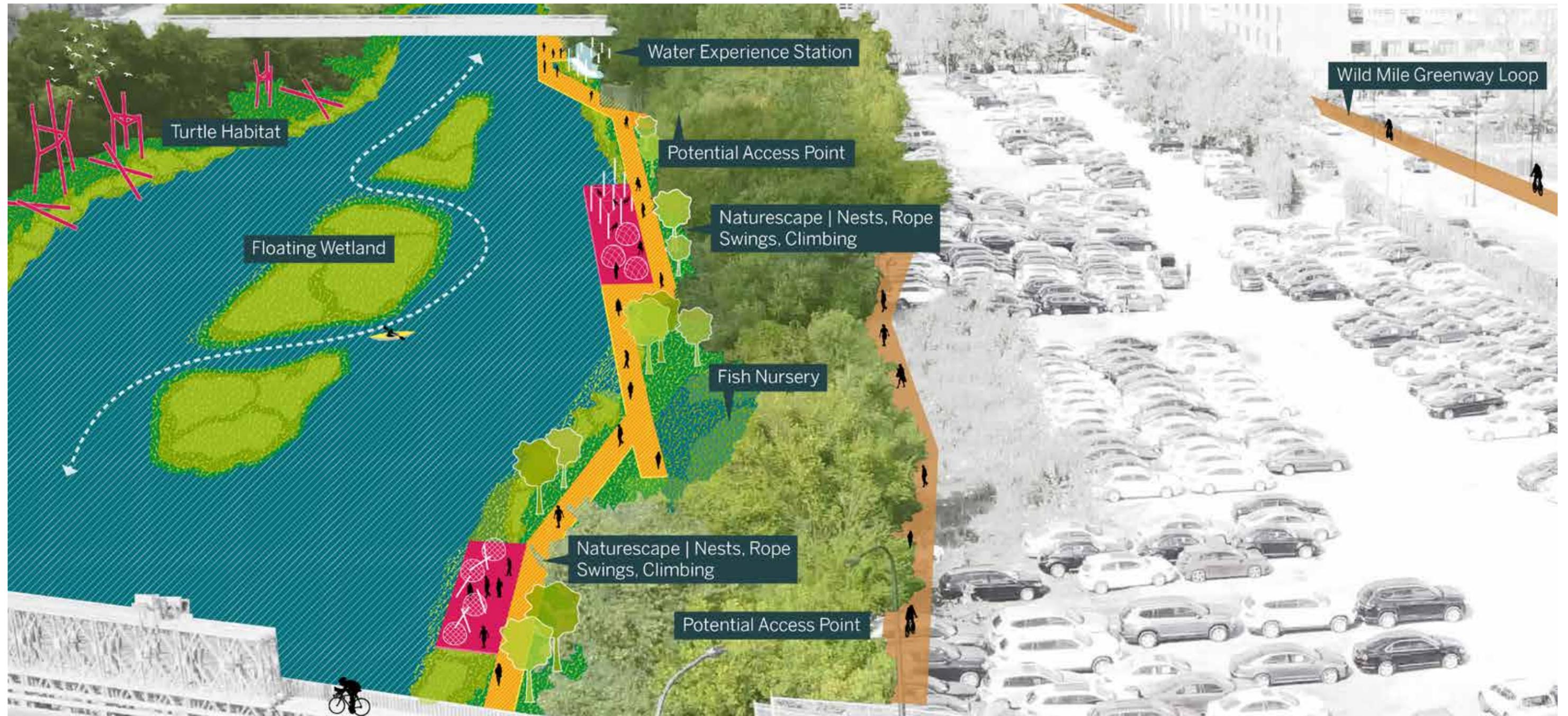
3.3 The North Reach

Habitat + Programming



Theme: Outdoor Learning + Recreation

- Kayaking + canoeing
- Water experience station
- Citizen science
- Naturescapes
- Instream floating wetlands
- Turtle snags and habitats
- Fish nursery
- Inboard wetland



3.3 The North Reach

Proposed Framework

- Floating Pathway
- Access
- Overlooks
- Floating Program Platforms
- Habitat
- New Public Spaces
- Proposed Greenway
- Water Taxi Route



3.3 The North Reach Conceptual Vision



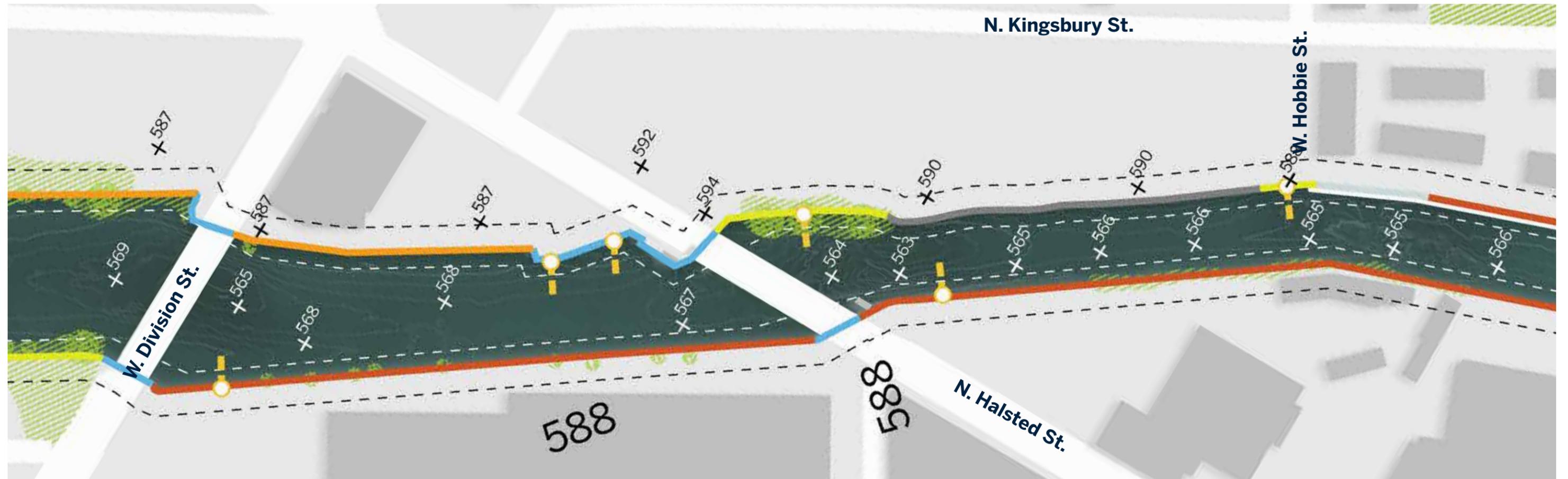
3.4 The South Reach

Existing Conditions

- + Spot Elevations
 - Existing Access Points
 - Sheetpile Edge
 - Heavy Timber
 - Concrete
 - Limestone
 - Naturalized
 - Rip Rap
 - Sewer Outfalls
 - Future Parks
- Chicago City Datum (CCD)
579.88ft



The South Reach segment 3a is the stretch of river from W. Division St. bridge to W. Hobbie St.



3.4 The South Reach

Habitat + Programming



Theme: Observing + Hanging Out

- Paths for strolling
- Hammocks
- Netted-seating
- Volunteer stations
- Native tree plantings
- Protected waters
- Pollinator gardens
- Interpretive signage



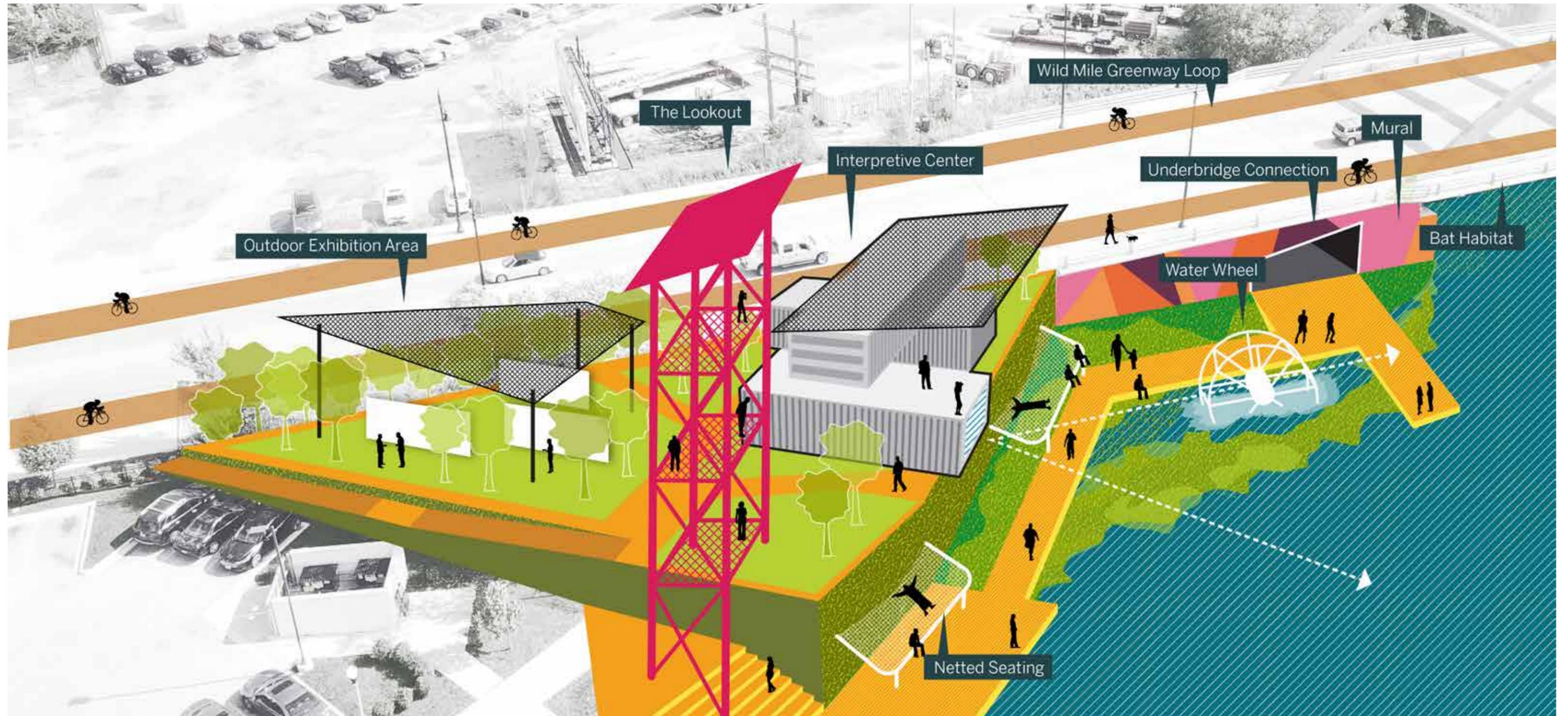
3.4 The South Reach

Habitat + Programming



Theme: The Lookout | Observing + Hanging Out

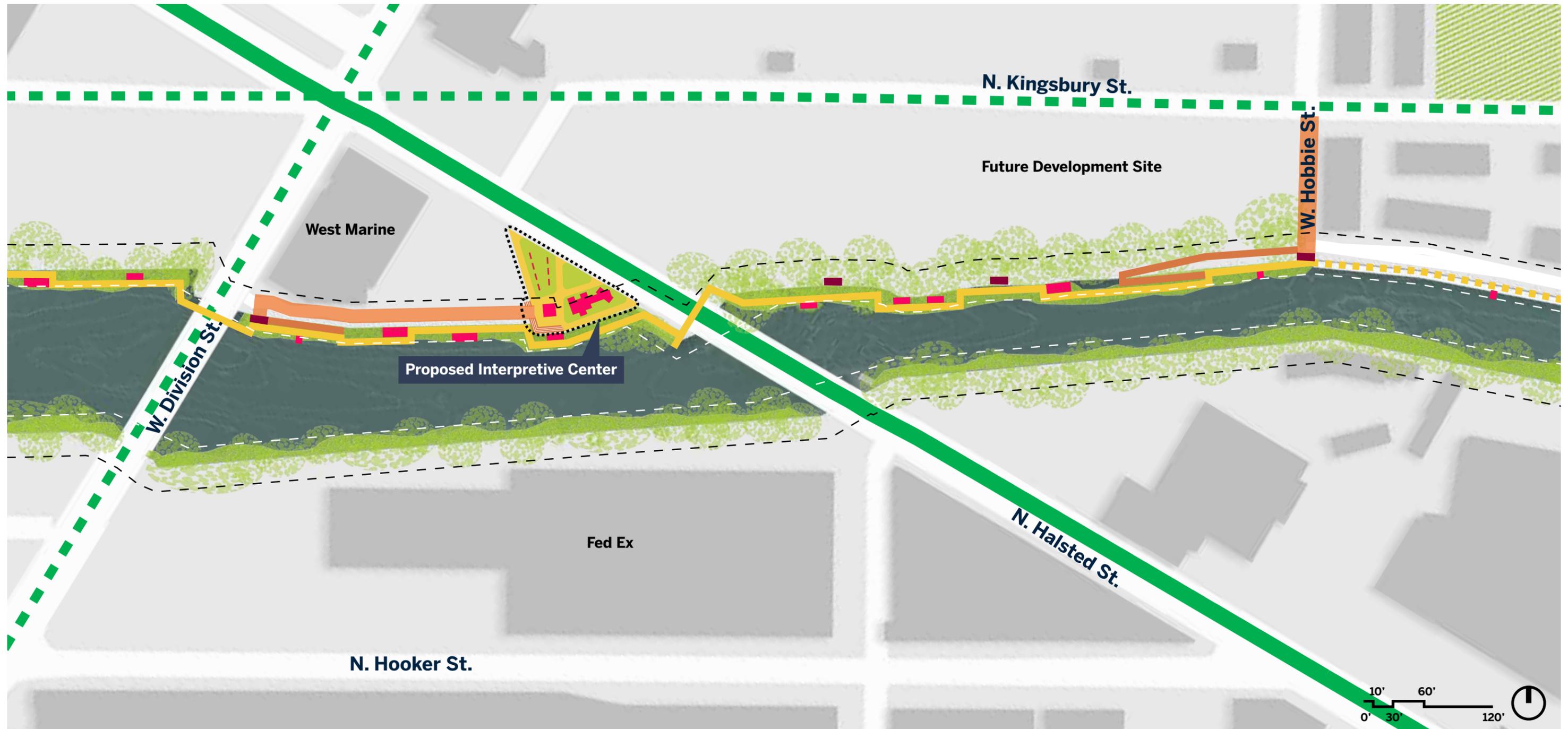
- The Lookout / Observation tower
- Interpretive center
- Educational exhibits
- Volunteering / learning spaces
- Waterwheel
- Underwater habitat installations
- Underbridge bat habitat
- Mussel habitats



3.4 The South Reach

Proposed Framework

- Floating Pathway
- Access
- Overlooks
- Floating Program Platforms
- Habitat
- New Public Spaces
- Proposed Greenway
- Water Taxi Route



3.4 The South Reach

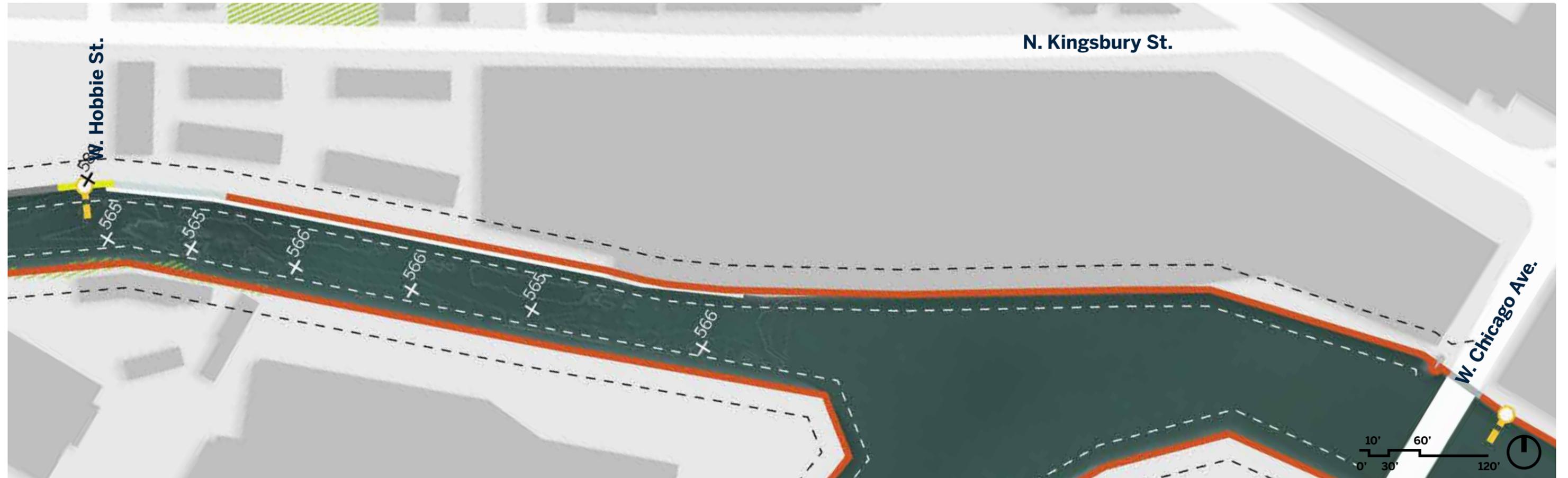
Existing Conditions

- + Spot Elevations
- Existing Access Points
- Sheetpile Edge
- Heavy Timber
- Concrete
- Limestone
- Naturalized
- Rip Rap
- Sewer Outfalls
- Future Parks

Chicago City Datum (CCD)
579.88ft



The most southern reach, segment 3b spans from W. Hobbie St. down to W. Chicago Ave.



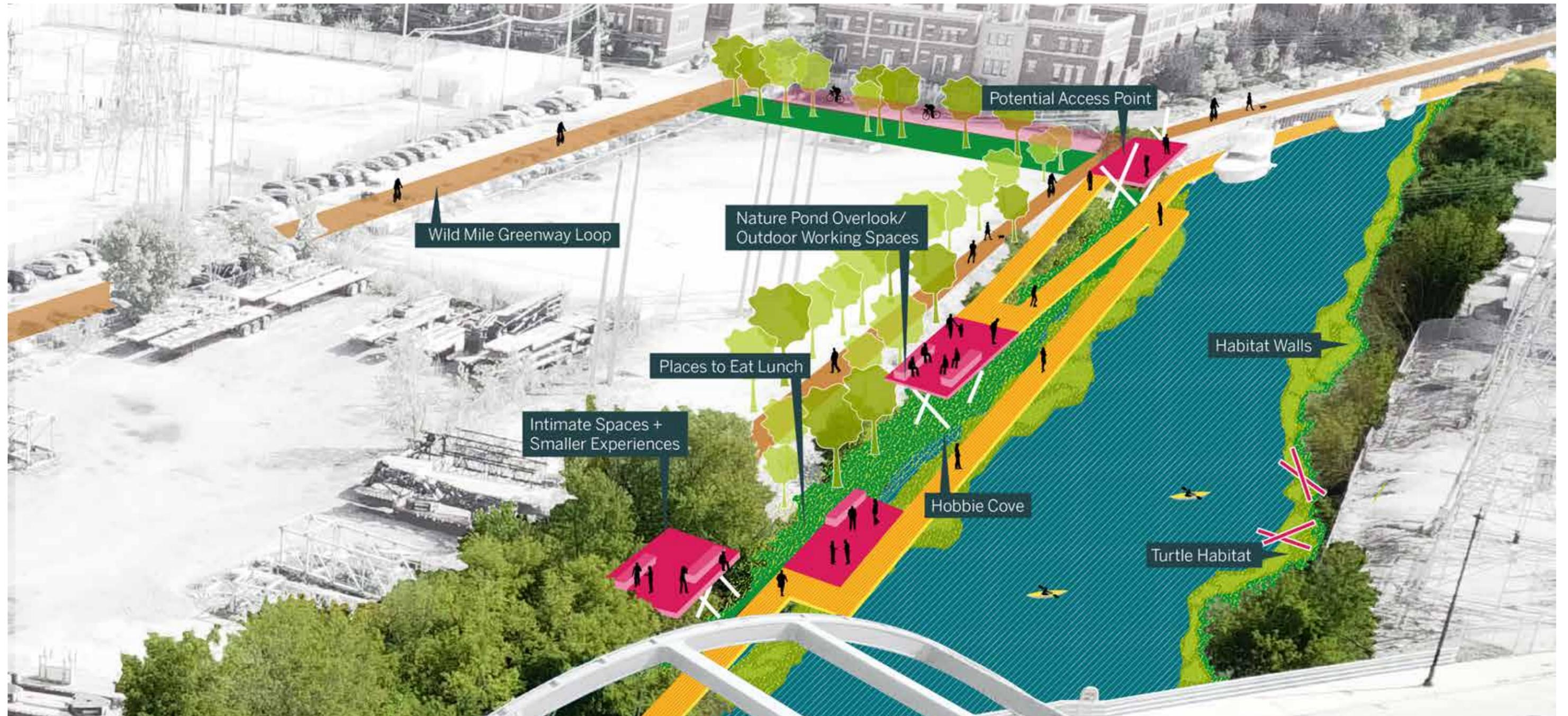
3.4 The South Reach

Habitat + Programming



Theme: Observing + Hanging Out / Living + Working

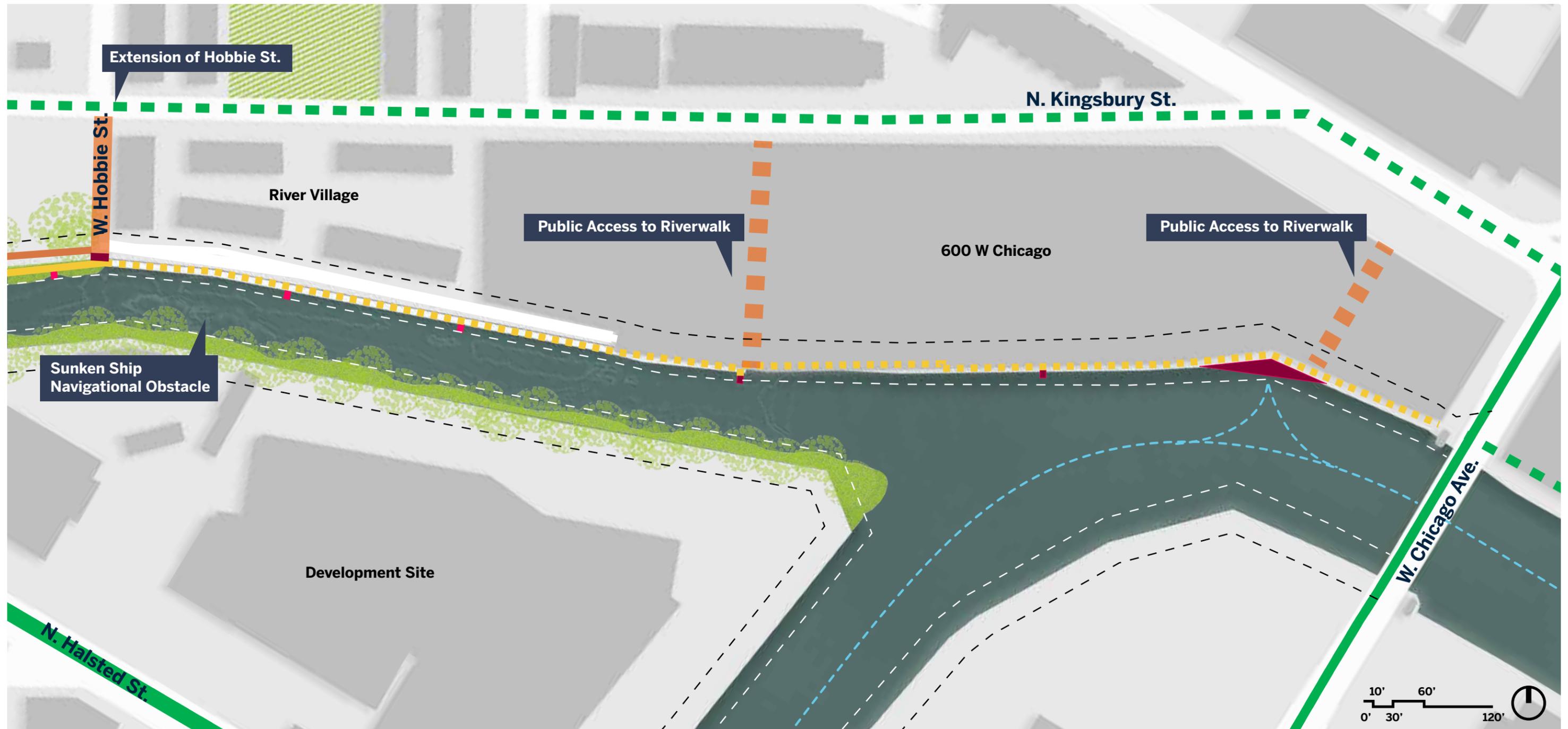
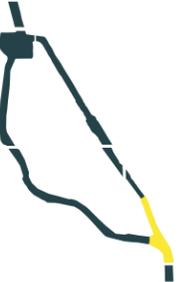
- Places to work
- Places to meet
- Places to eat
- Intimate spaces
- Terraced habitat walls
- Turtle piers
- Bird perches
- Water fowl feeding areas



3.4 The South Reach

Proposed Framework

- Floating Pathway
- Access
- Overlooks
- Floating Program Platforms
- Habitat
- New Public Spaces
- Proposed Greenway
- Water Taxi Route



3.4 The South Reach Conceptual Vision



04 Implementation



4.0 Implementation

How to Build the Wild Mile

Now that the roadmap is complete.

The framework plan reaffirms the guiding principles or ethic of the Wild Mile that we put wildlife first and we connect people with nature.

The framework plan includes a kit of parts to construct the floating path, educational platforms, river overlooks, and floating habitats. The inherent modular, and nature inspired design provides flexibility and adaptability to customize parts to serve the communities' needs.

Also central to the overall framework has been the Army Corps of Engineers who have provided a framework to incorporate floating habitat within the 20-ft river edges. Still maintaining a navigable channel in the middle for paddle craft and rowers, the edges allow the "de-channelization" of the river and adding habitat value to the rivers' edge.

The next step is to build the team.

The team starts first with property owners, and obtaining permission to attach to and to use their riverfront space. NeighborSpace, which is a City created not for profit community land trust, is equipped to secure access agreements or easements from property owners for the Wild Mile.

The team also includes the technical expertise to design and construct the floating paths and habitats, and the science and education groups to develop a program for the space. The space is envisioned to be flexible to accommodate a range in programming at different times of the day or different times in the season.

Planning for stewardship starts before the project ever hits the ground. Cleanup days bring people closer to the river, to make a tangible difference to improve the river, and to help volunteers envision how parts of the Wild Mile fit together.

Urban Rivers started a River Rangers program getting volunteer stewards to get in the river on kayaks to maintain the floating habitats.

A space needs to be selected

Where to start is most always is decided on existing conditions and context. The existing conditions determine the ease or difficulty to access, place, and construct the Wild Mile floating platforms and habitats. Context brings more visibility to a project site, and adds activity to an existing space leveraging already built improvements.

The Wild Mile will start as a collection of community managed spaces

Efforts are already underway. Led by Urban Rivers, Near North Unity, and NeighborSpace, efforts are already underway with pilot floating gardens in front of Whole Foods and a partnership with REI at the end of EastmanStreet to attach a Wild Mile educational platform next to the kayak launch.

Wild Mile events that occurred in April 2019 included:

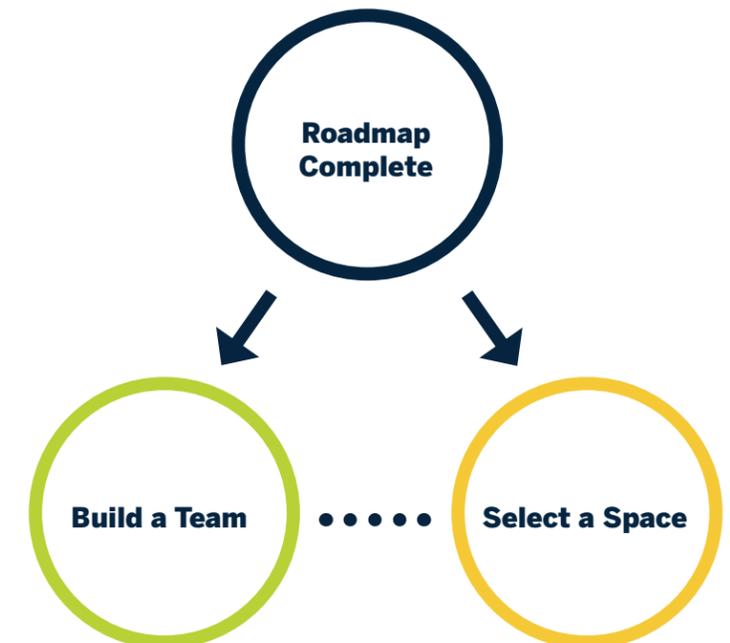
- Groupon on river cleanup day
- Whole Foods on Wild Mile art display
- Waste Management on habitat installs
- REI on educational activity
- Other events and efforts

The momentum has already started

The Wild Mile is a new kind of park space. There already is and there will be shared responsibility to program and manage the Wild Mile. Community involvement will be need to help with these efforts as the collection of programmed spaces expand.

Over time the Wild Mile will grow into a coordinated program with more structured governance

A more formalized dedicated structure will be needed as the Wild Mile grows in size, programming, and stewardship. That structure will need to include broader representation from stakeholders, community, science, art and education to work on fundraising, programming, design and implementation, maintenance, and continued community involvement. Envisioned to be a public private partnership, a range of funds and partners have the ability to be included. The Wild Mile Community Framework Vision preserves the basis for the governance to follow.



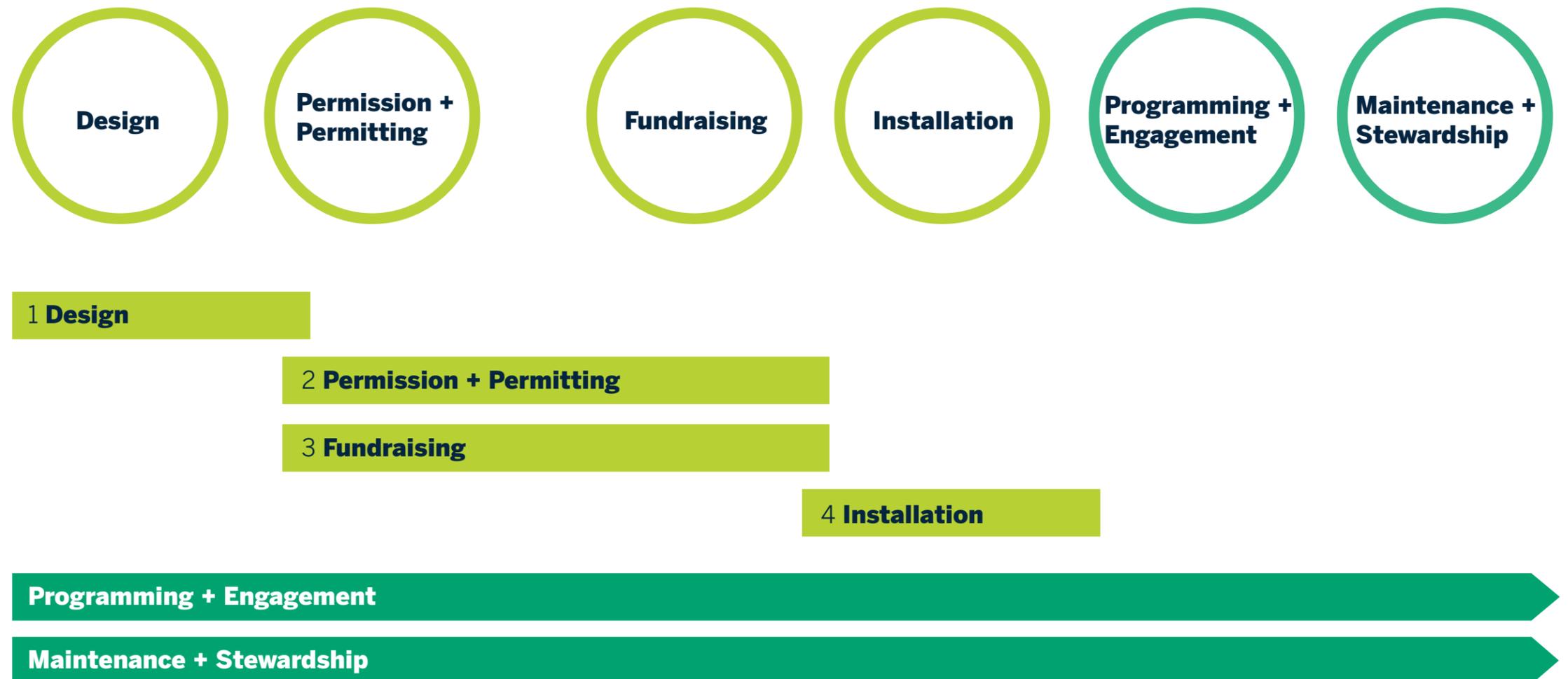
4.0 Implementation

The Wild Mile Working Groups

Below are the working groups and steps needed to make the Wild Mile Vision a reality. The amount of effort will depend on the location, existing conditions, and scale of project proposed.

Over the lifetime of the project, the Maintenance + Stewardship is an important component of the project, and can range from one time volunteers to more dedicated site stewards adopting spaces.

Programming + Engagement is also an ongoing effort to build river related educational or art programs, and to connect schools to participate in the design, installation, maintenance, and programming of the Wild Mile.

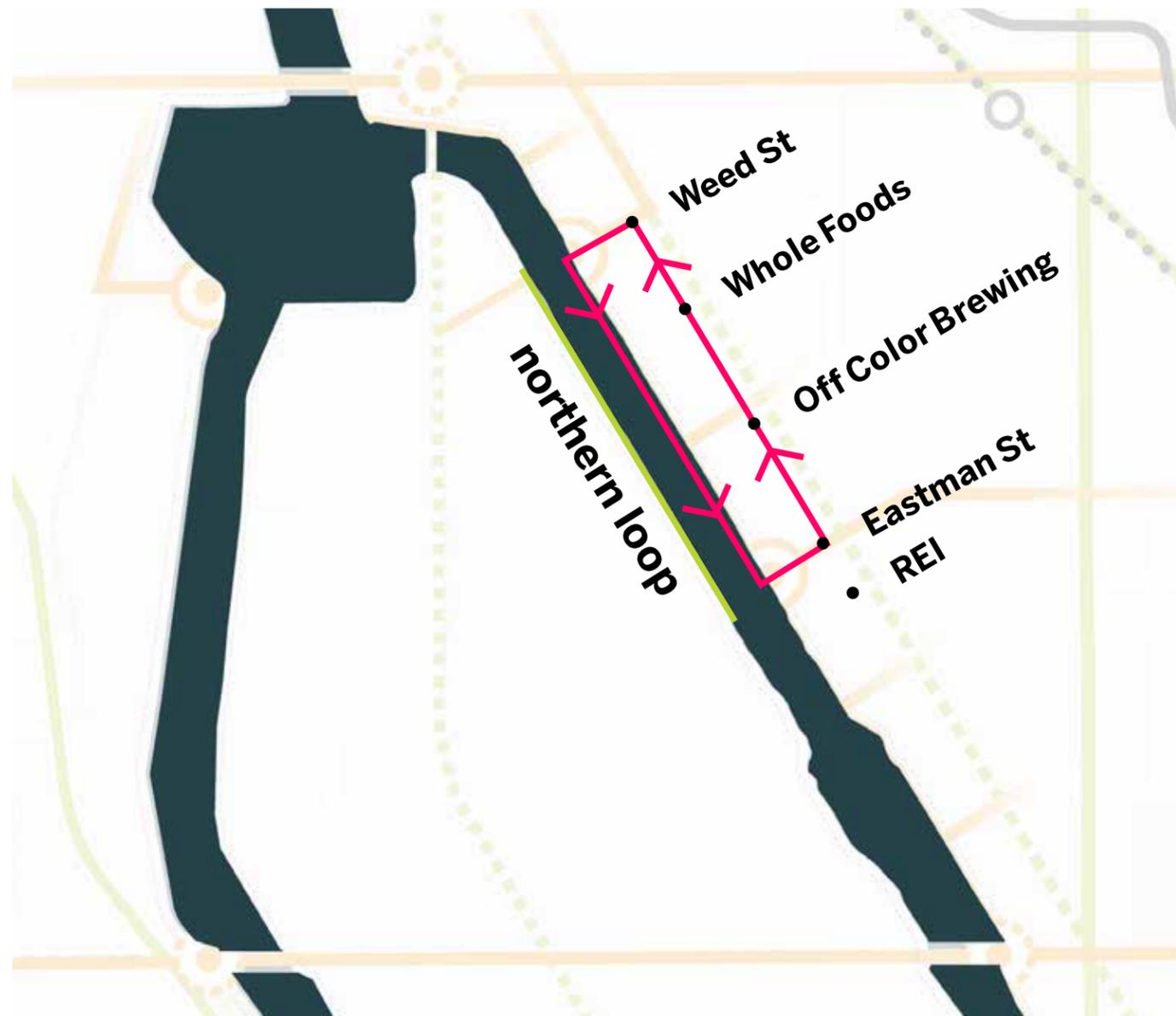


4.0 Implementation

Growing the Momentum

Activity on the Wild Mile Northern Loop is underway which lends this location to be the first segment to start.

- Urban Rivers floating habitat installations next to Waste Management
- Whole Foods has a riverwalk
- New REI store with riverwalk and ramp down to a floating kayak launch
- Reconstructed Eastman Street
- Wild Mile Educational Learning Dock to attach to the kayak launch (summer 2019 installation)



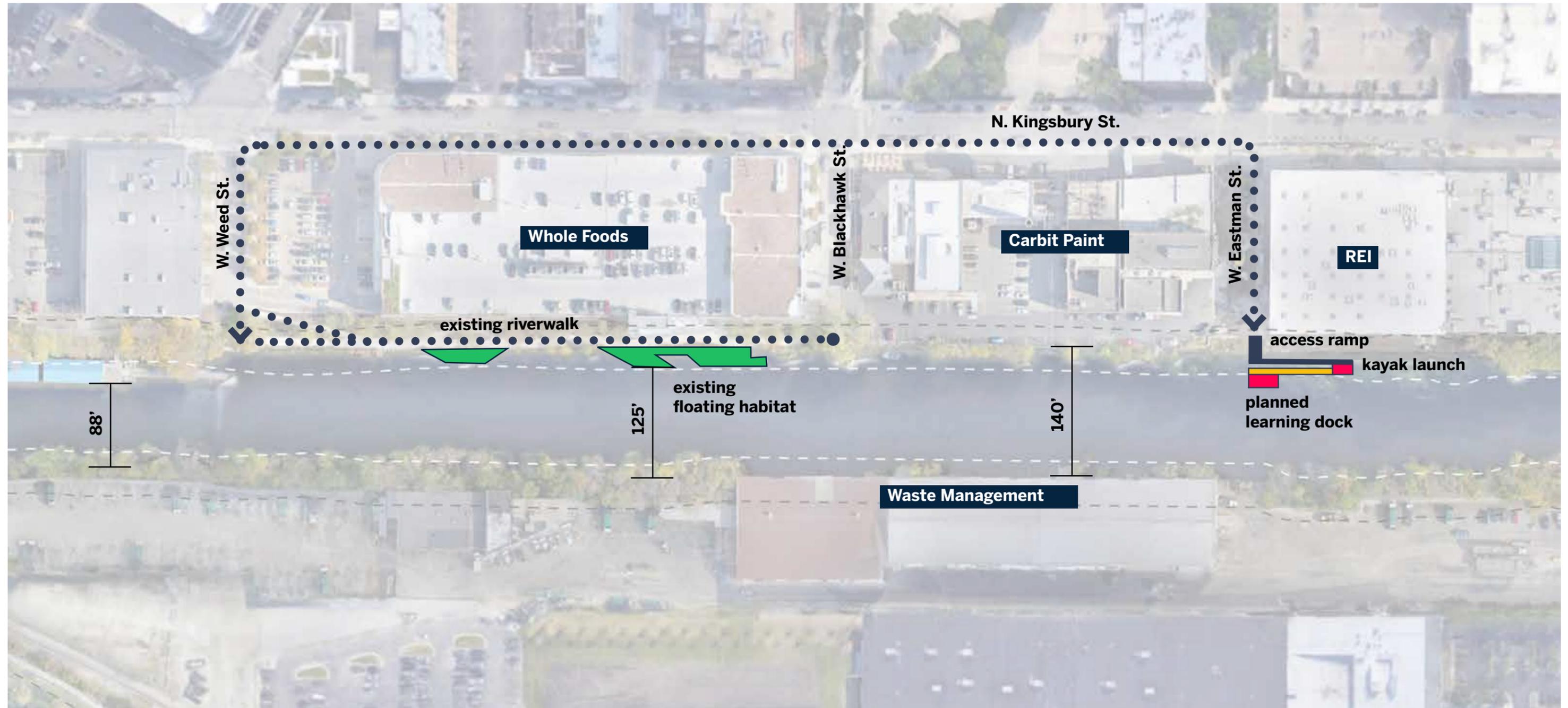
4.0 Implementation

Existing Assets

W. Eastman St. to W. Weed St. | Completing the Northern Loop

- Floating Pathway
- Floating Program Platforms
- Floating Habitat Rafts
- Access Points
- Access Ramp
- Existing

Connecting existing improvements creates the Northern Loop and a first segment to the Wild Mile.



4.0 Implementation

Starting with the Path

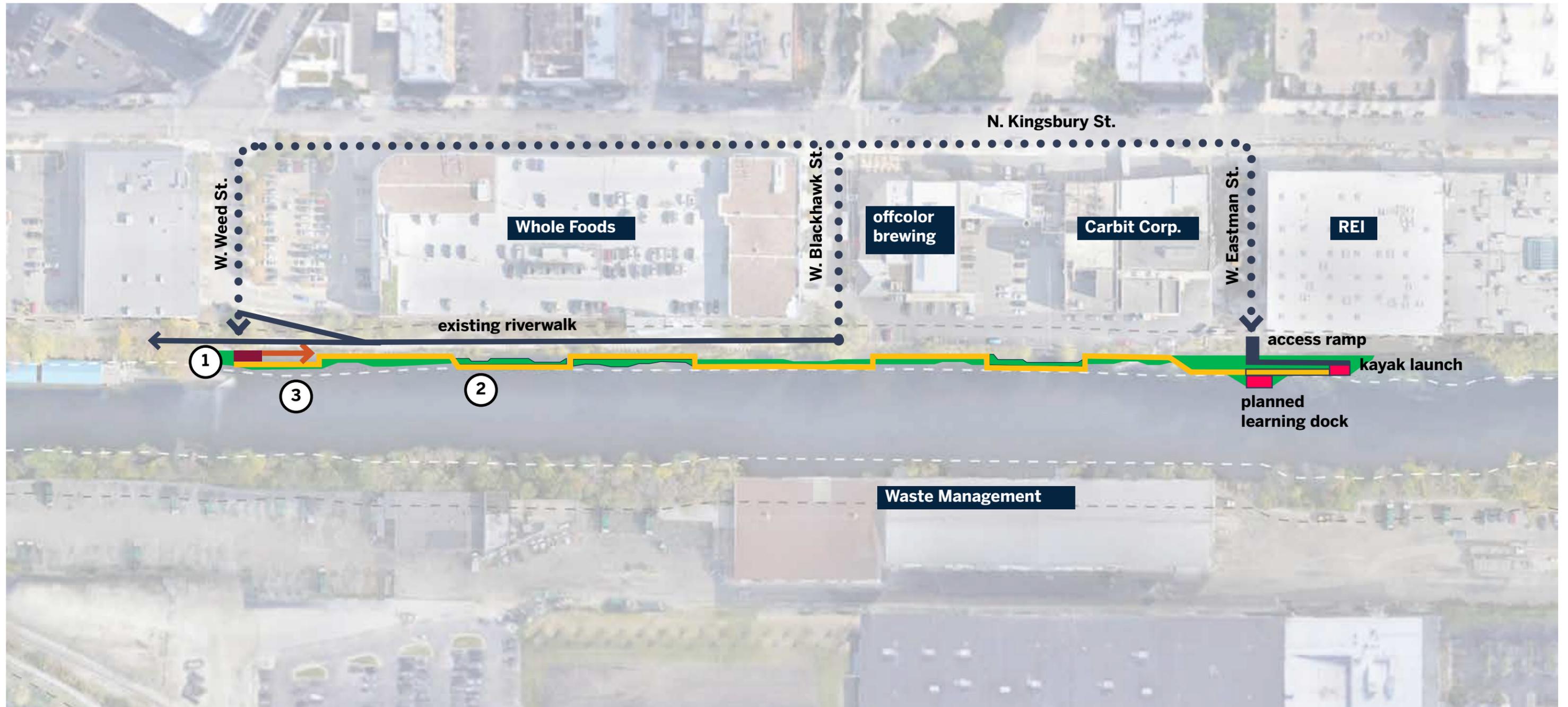
W. Eastman St. to W. Weed St. | Completing the Northern Loop

The floating path and street end ramp is the first step and the building block for the public to safely access the river.

The cost of this first floating path is approximately \$1.3-\$1.5M. The recommendation is that the City fund this from Open Space Impact Fees. Impact Fees are fees collected from new residential units that are used to fund new open space projects.

1. W. Weed St. Access Point
2. Continuous Walkway from W. Eastman St. to W. Weed St.
3. Floating Habitat

- Floating Pathway
- Floating Program Platforms
- Floating Habitat Rafts
- Access Points
- Access Ramp
- Existing



4.0 Implementation

Adding Wild Mile Components

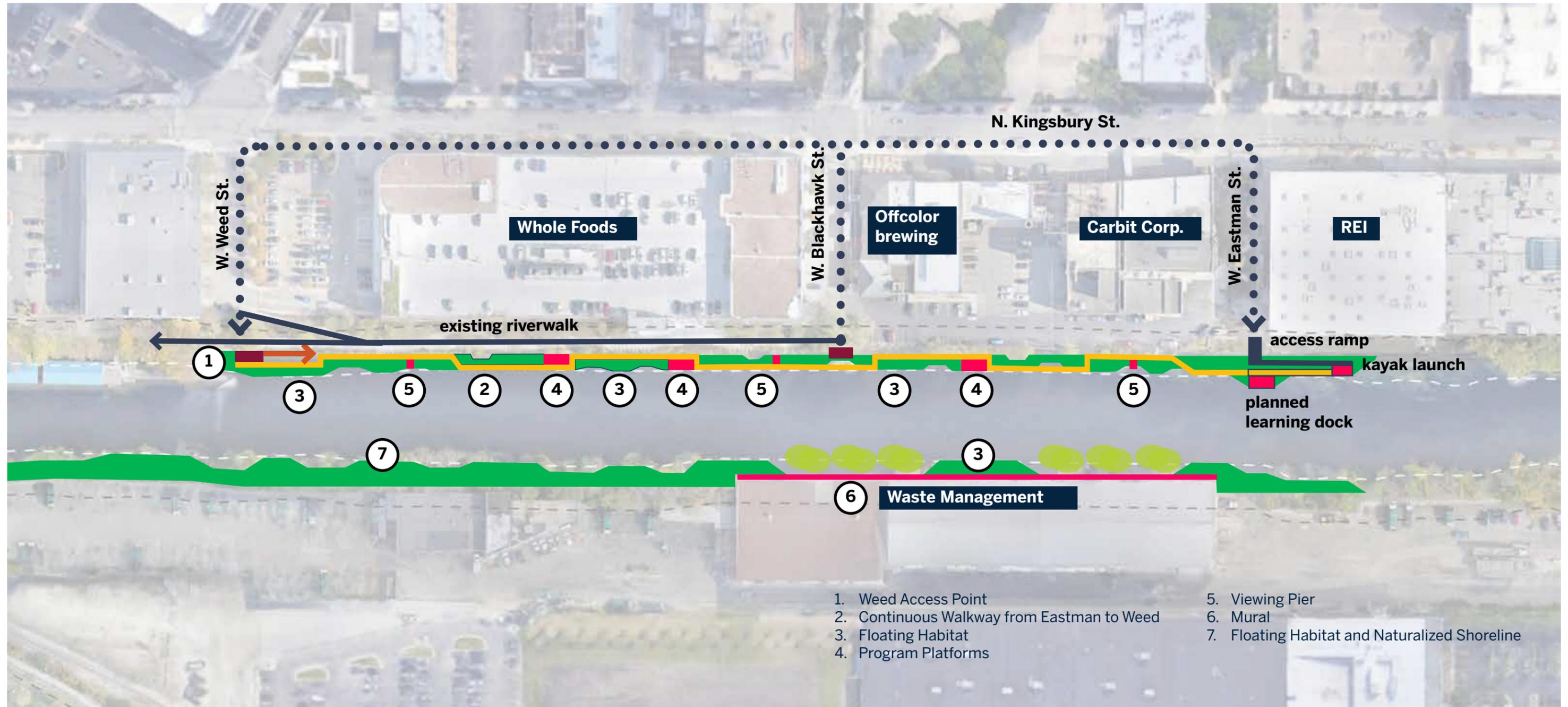
W. Eastman St. to W. Weed St. | Completing the Northern Loop

- Floating Pathway
- Floating Program Platforms
- Floating Habitat Rafts
- Access Points
- Access Ramp
- Existing

Modular in design, the City's investment to fund the floating path allows the Wild Mile partners to leverage private funds or grants to add floating wildlife habitat, program platforms, river overlooks, and other art or education installations.

Utilizing the Wild Mile Community Framework, potential funders can select modules or components to add to the base foundation floating path. Partners can include schools or art programs to develop a program for the nature

space. Modular in design, the components can be added incrementally, suited to the capacity for the provided program and for the amount of stewardship.



4.0 Implementation

Wild Mile Components

W. Eastman St. to W. Weed St. | Completing the Northern Loop

Component	Items	Quantity	Unit	Cost / Unit	Total
The Trail					
	Floating Pathway, Decking, Seating, Lighting, Access Ramps, Stairs, and Overlook	1,260	LF	\$1,100	\$1,386,000
The Program					
	Small Floating Program Platform Viewing Pier (S) - 7.5'x10'	3	EA	\$10,000 to \$20,000	
	Medium Floating Program Platform Activity Platform (M) - 7.5'x20'	1	EA	\$20,000 to \$36,000	
	Large Floating Program Platform - Gathering / Classroom Platform (L) - 11.25'x30'	3	EA	\$60,000 to \$112,000	
The Habitat					
	Floating Habitat Rafts	350-400	EA	\$1,000 to \$1,500	
	Instream Floating Habitat Rafts	0	EA	\$1,200 to \$1,500	
	Floating Tree Rafts - High Buoyancy Raft	10	EA	\$1,500 to \$1,800	
	Fixed to Edge Habitat: Sheet Pile Planters, Submerged Habitat	3,050	LF	\$75	
	Habitat Sculptures: Turtle Snags, Purple Martin Houses, Pollinator Hotels, Bird Perches, Rookery, Bat Shelters	40	EA	\$1,200	
	Naturalized or Enhanced Edge: Geotextile Terraces, Articulating Concrete Mats	1,035	LF	\$350	
	Aeration Installation: Waterfall, Bubble Aerators, Water Wheel	0	EA	\$5,000 to \$10,000	
Street ROW					
	Street Improvements at Access Points: Sidewalk, Landscaping, Seating, Bike Racks, Signage and Wayfinding				
Public Art					
	Murals	1	EA	\$50,000	

Clarifications and Conditions

1. Cost estimates, unit costs, and quantities are based on a preliminary concept developed with the City of Chicago Department of Planning and Development. Actual quantities and unit costs are subject to change based on final design, engineering, and site conditions. The costs stated herein are provided by the Wild Mile Framework Vision Project Team. The costs are approximate, and in no way are guaranteed nor an offer of work by the Wild Mile Framework Vision Project Team.
2. This is an independent concept opinion of probable cost for the Wild Mile Components.
3. This estimate is based on the "Completing the Northern Loop" project laid out on pages 124-129 of the Wild Mile Framework Vision document. Sketches of the Wild Mile Components envisioned to complete thprise the Wild Mile are shown on pages 50-55 and 132-133.
4. Estimate assumes new trees to be 2-1/2" to 3" caliper, no 'big trees' have been included
5. Estimate includes a contingency cost to cover unforeseen conditions
6. This is a Conceptual Cost Estimate, design is currently in the concept stage. the Wild Mile Framework Vision Project Team has no control over the contractor's labor or their method of determining pricing or over competitive bidding or market conditions, this Opinion of Probable Cost is based on our best judgement and experience with the construction industry. the Wild Mile Framework Vision Project Team cannot guarentee that proposals, bids, or actual construction costs will not vary from this estimate based on conceptual information.
7. Estimate includes all labor, material and equipment to complete the work.

4.0 Implementation

Wild Mile Components

Modular in composition, the Wild Mile will be comprised of a series of components. This kit of parts allows for incremental implementation.

Continous Pathway

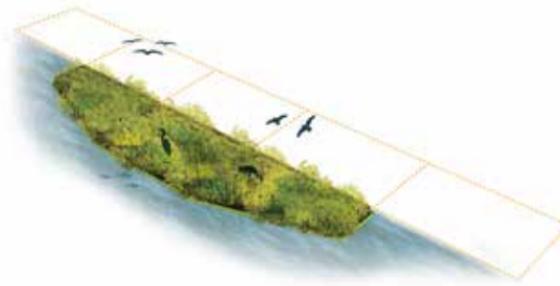
- Connect-A-Dock Modules
- Composite Decking
- Interpretive Signage
- LED Lighting
- Benches
- Trash Receptacles
- Ladders
- Life Rings



Cost \$1,000 to \$1,800 per LF

Floating Habitat Raft

- Bio-Matrix Water Wetland Raft
- Native Plants
- Subsurface Fish Habitat



Cost \$1,000 to \$2,000 each

Floating Tree Raft

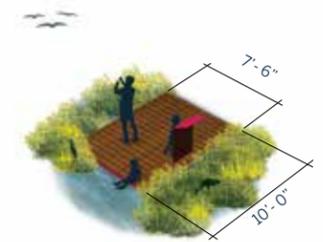
- Bio-Matrix Water Wetland Raft
- Native Plants
- Anchor



Cost \$1,500 to \$2,500 each

Viewing Pier (S)

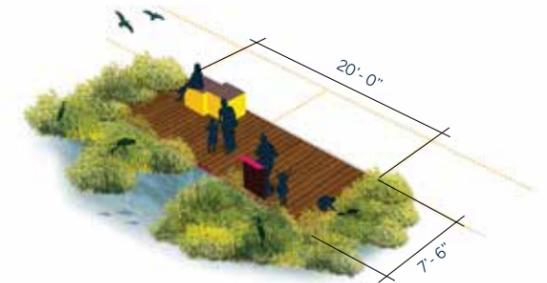
- Connect-A-Dock Large Floating Module (1)
- Composite Decking
- Interpretive Signage (1)
- LED Lighting
- Trash Receptacle (1)
- Bench (1)



Cost \$10,000 to \$18,000

Activity Platform (M)

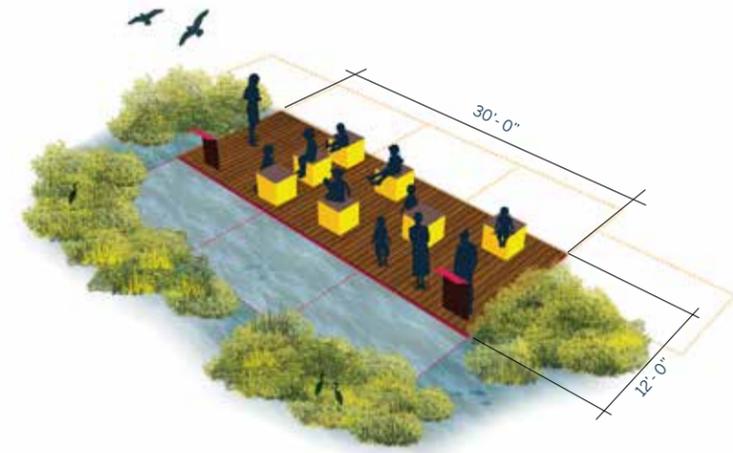
- Connect-A-Dock Large Floating Module (2)
- Composite Decking
- Interpretive Signage (1)
- LED Lighting
- Trash Receptacle (1)
- Bench (2)
- Storage Container (1)



Cost \$20,000 to \$36,000

Gathering / Classroom Platform (L)

- Connect-A-Dock Large Floating Module (3)
- Connect-A-Dock Medium Floating Module (6)
- Composite Decking
- Interpretive Signage (2)
- LED Lighting
- Trash Receptacle (2)
- Bench (multiple)
- Storage Container (2)
- Other



Cost \$62,000 to \$112,000

4.0 Implementation

Wild Mile Components

Modular in composition, the Wild Mile will be comprised of a series of components. This kit of parts allows for incremental implementation.

Overlook

- Guardrail
- Interpretive Signage



Cost \$15,000 to \$25,000

Gathering Steps

- Porous concrete steps attached to seawall



Cost \$5,000 to \$10,000

Short Ramp

- Overlook
- +/- 40' long ramp
- Hand railing



Cost \$22,000 to \$32,000

Long Ramp

- Overlook
- +/- 80' long ramp
- Hand railing



Cost \$25,000 to \$35,000

4.0 Implementation

Time of Day and Seasonality

The Wild Mile is part of the Chicago Riverwalk, whose hours of operation is from 6:00 am to 11:00 pm. The goal is to program the Wild Mile throughout the day with a variety of activities.

The Wild Mile aims to be accessible to all, year round. Due to the fact that this is a floating amenity in the water, portions of the boardwalk may need to be closed during severe or inclement weather conditions.

Stewardship

There will be shared responsibility to program and manage the Wild Mile. Community involvement will be needed to help with these efforts and is welcomed. Stewardship will play a large role in the success of the Wild Mile and something that is on-going now prior to implementing the floating pathway. Those interested can volunteer to partake in river cleanup, monitoring wildlife, and tending to the floating gardens.

The Urban Rivers team has a River Ranger program in place allowing for all ages and abilities to be involved in: reporting on plant health and wildlife sightings, removing trash buildup, weeds and invasive species, performing scientific tasks to measure the installation's impact on the ecosystem, while helping the community and local wildlife.



Urban Rivers River Ranger Program

Signage and Wayfinding

Signage and wayfinding along the Wild Mile should be consistent with the Chicago River Brand Standards and Guidelines, which is in place to unify the riverwalk trail throughout the City. The Brand Standards and Guidelines include the Riverwalk logo, informational signage, mile markers, and amenity icons.

Safety and Security

Design Considerations

The City recommends that the following considerations be part of future design programs for the Wild Mile. This list is intended to represent some, but not all, of the possible safety elements and refer to the Chicago Riverwalk Design Guidelines. This list is not intended to replace compliance with all codes, standards, and requirements of authorities having jurisdiction; all of which should be understood by future design teams:

- Install safety ladders and life rings along the vertical seawalls at river overlooks and large gathering spaces next to the river.
- Install life rings, life vests and throw ropes along the wild mile and at street access points along the floating pathway.
- Install smart LED lighting systems placed along the edge of the floating pathway throughout the Wild Mile for safety.
- Install cameras to monitor wildlife and detect human activity (or any malicious activity) within the Wild Mile.
- Signage using icons from the Chicago River Brand Standards and Guidelines located along the multi-use trail, within and outside the riverfront, should be used for safety information.



Wild Mile Wayfinding and Singage

05 Appendix

5.1 Habitat Matrix

5.2 Plant Palette

5.3 Acknowledgements



Appendix 5.1 Habitat Matrix

Habitat Matrix

	Existing Edge Type ¹	Plants ²			Key Food Webs ⁴	Time to Install (months) ⁵	Potential Issues ⁶	Rough Cost ⁷	Rank ⁸
Floating (Fixed to Existing Edge)									
<i>Floating Pollinator Garden</i>	a,b,d,e,h	P, E	Flying insects (bees, flies, butterflies, beetles); spiders; hummingbirds; songbirds		plant > invertebrates > bats, birds; plant (fruit, seeds) > small mammals, birds; plant roots > small fish, crayfish	0-3	C	Raft cost	1
<i>Floating Wetland</i>	a,b,d,e,h		Flying insects (bees, flies, butterflies, beetles); spiders; songbirds		plant > terrestrial invertebrates > bats, birds; plant > aquatic invertebrates > fish/turtle; plant > turtle; plant > muskrat	0-3	C	Raft cost	1
<i>Floating Amphibian Pond and Garden</i>	a,b,d,e,h	E, S, Also, open water with pebble bottom	plant (fruit, seeds) > small mammals, birds;		Plant > tadpoles; Plant > invertebrate > frogs, toads, salamanders	0-3	C	Raft cost	1
<i>Mussel trays (flow through connectors between plant-ed rafts)</i>	a,b,d,e,h	S	Native mussels (aquatic insects will colonize)		Plankton > mussels (filter feeders); aquatic insects > frogs, dragonfly nymphs; adult flying insects > bats, birds, frogs, adult dragonflies	0-3	C	Raft cost	1
<i>Multi-Species Haul-out Raft (with outriggers for turtles to climb on)</i>	a,b,d,e,h	S, E, short plants only; nothing tall enough to hide a heron	Turtles; frogs, perching birds; ducks.		Key function for turtles and frogs is basking. Turtles and frogs will eat algae, aquatic invertebrates (worms, snails and clams, larval insects, crayfish and other crustaceans, etc.), and fish. Perching birds (herons, cormorants) eat fish and crayfish. Ducks eat aquatic vegetation and small aquatic invertebrates.	0-3	C	Raft cost	1
<i>Floating Trees</i>	a,b,d,e,h	D (trees)	Songbirds; insects		plant > invertebrates > birds/bats; plant > birds	0-6	C	2	1
<i>Turtle Snags (away from shore but tethered to existing edge)</i>	a,b,d,e,h	None	Painted turtle, map turtle, other native turtles; frogs		Key function is basking. Turtles and frogs will eat algae, aquatic invertebrates (worms, snails and clams, larval insects, crayfish and other crustaceans, etc.), and fish.	0-3	---	Use fallen logs from arboretum, parks (labor cost)	1
<i>Curtains /Hula Skirts⁹</i>	i	None (algae will naturally colonize the skirts)	Aquatic invertebrates, small fish, crayfish, tadpoles		algae > invertebrates, tadpoles, small fish > fish/crayfish > aquatic birds heron, cormorant)/turtles	included with floating walkways	---	\$0.40 LF for knotless mesh 14" deep	1
<i>Bird Perches</i>	a,b,c,d,e,f	None	Birds (kingfisher, cormorant, herons, raptors, songbirds)		Key function is perching. Kingfisher may dive for fish from the perch; prefers horizontal structure over middle of stream	0-6	---	Design-dependent	2
<i>Fish Habitat Beneath Floating Rafts</i>	1,2,4	No plants; cubbies, pipes, or other structure attached to bottom of floating gardens	Fish(resting, spawning, rearing)		Key function is shelter. Fish will eat algae, aquatic invertebrates (worms, snails and clams, larval insects, crayfish and other crustaceans, etc.) and other fish.	0-3	---	Design-dependent (\$50 minimum)	1
Fixed to River Bottom									
<i>Submerged Sheetpile or Gabion (with clean sand/gravel behind)</i>	a,b,d	S, E	Fish, mussels, aquatic invertebrates in nearshore sand/gravel shallows		plant > invertebrates > bats, birds; plant (fruit, seeds) > small mammals, birds; plant roots > small fish, crayfish	0-6	A	plus sand/gravel fill; design-dependent; > \$5,000	2

Appendix 5.1 Habitat Matrix

Habitat Matrix

	Existing Edge Type ¹	Plants ²			Key Food Webs ⁴	Time to Install (months) ⁵	Potential Issues ⁶	Rough Cost ⁷	Rank ⁸
<i>Post/Piling "fence" (with clean sand/gravel behind)</i>	a,b,d	S, E	Fish, mussels, aquatic invertebrates in near-shore sand/gravel shallows; perching birds on flat-topped posts		plant > aquatic invertebrates > fish, crayfish plant > adult invertebrates > bats, birds	0-6	A	plus sand/gravel fill; design-dependent; > \$5,000	2
<i>Articulating Concrete Block (ACB) Mats (in erosion-prone north reach)</i>	d (south of Cherry St. Bridge)	S, E, F	Fish, mussels, aquatic invertebrates in near-shore sand/gravel		plant > aquatic invertebrates > fish, crafish; plant > adult invertebrates > bats, birds; plant (leaves, fruit, seeds) > terrestrial invertebrates, birds, small mammals		A	plus overlying sand/gravel; costs not readily available (Shoretac®)	4
<i>Perch-Sculptures</i>	a,b,c,d,e,f,h	None	Birds (kingfisher, cormorant, herons, raptors, songbirds)		Key function is perching; kingfisher may dive for fish from the perch.	6-18	A,B	Design- dependent	3
<i>Fish Shelter (artificial reef; structural habitat)</i>	a,b,d,e,h	None	Fish (resting, spawning, rearing)		Key function is shelter. Fish will eat algae, aquatic invertebrates (worms, snails and clams, larval insects, crayfish and other crustaceans, etc.) and other fish.	0-3		Design- dependent (\$50 minimum)	1
<i>Purple Martin Gourds</i>	a,b,c,d,e,f,h (c is priority)	None	Purple martin		Key function is shelter. Purple martins will eat flying insects.	0-3		\$230 each set (16 gourds and pole)	1
Naturalization of Existing Edge									
<i>Fabric-Pocketed Retaining Wall</i>	a,b,c,d	D (upper pockets); F, E (lower pockets)	Flying insects (bees, flies, butterflies, beetles); spiders; hummingbirds; songbirds		plant > pollinators/other terrestrial insects plant > invertebrates > bats/birds; plant (fruit, seeds) > small mammals/songbirds	0-6	A (maybe), C, D (maybe)	(\$80 per ft ²) including pump and irrigation tubing	2
<i>Wall planters for climbing/trailing vines and shrubs</i>	a,b	V (trailing vine at top of wall and climbing vine at bottom of wall)	Flying insects (bees, flies, butterflies, beetles); spiders; hummingbirds; songbirds		plant > pollinators/other terrestrial insects plant > invertebrates > bats/birds; plant (fruit, seeds) > small mammals/songbirds	0-3	---	Design-dependent (\$50 minimum)	1
<i>Fish Shelter (shelves, cubbies, tubes, or other structure attached to walls)</i>	a,b,d,	None	Fish (resting, spawning, rearing)		Key function is shelter. Fish will eat algae, aquatic invertebrates (worms, snails and clams, larval insects, crayfish and other crustaceans, etc.) and other fish.	0-3	---	Design- dependent (\$50 minimum)	1
<i>Geotextile Geocell Terraces</i>	d,e	S, E, F	Fish, mussels, aquatic invertebrates in near-shore sand/gravel		plant > aquatic invertebrates > fish, crayfish; plant > adult invertebrates > bats, birds; plant (leaves, fruit, seeds) > terrestrial invertebrates, birds, small mammals	6-12	---	~1.00 – 1.25 per ft ² plus sand/gravel fill	2
Upland Installations									
<i>Trees and Pollinator Gardens</i>	f	D, P, V	Flying insects (bees, flies, butterflies, beetles); spiders; hummingbirds; songbirds		plant > invertebrates > bats/birds; plant (fruit, seeds) > small mammals/birds; plant roots > beetle grubs/voles	0-3	---	Design- dependent (\$50 minimum)	1
<i>Bat Shelters</i>	g	None	Bats, swallows		Key function is shelter. Bats will eat flying moths and other insects.	6-12	B	~\$300 WAG	1
<i>Rookery</i>	f	None	Black-crowned night heron, other herons (?)		Key function is roosting. Herons will eat fish, frogs, and crayfish.	6-18	A,B	Design-dependent	3

Appendix 5.1 Habitat Matrix

Habitat Matrix

	Existing Edge Type ¹	Plants ²			Key Food Webs ⁴	Time to Install (months) ⁵	Potential Issues ⁶	Rough Cost ⁷	Rank ⁸
<i>Bee Hotels</i>	a,b,c,d,e,f	P	Mason bee and other native bees		Key function is shelter. Bees will eat pollen and nectar.	0-6		6" reeds: \$30/100; wood for frame \$50; copper roof \$30; total ~\$100 each.	1
<i>Purple Martin Gourds</i>	a,b,c,d,e,f,h (c is priority)	None	Purple martin		Key function is shelter. Purple martins will eat flying insects.	0-3		\$230 each set (16 gourds and pole)	1
<i>Geotextile Geocell Terraces</i>	f	P, D	Flying insects (bees, flies, butterflies, beetles); spiders; hummingbirds; songbirds		plant > invertebrates > bats/birds; plant (fruit, seeds) > small mammals/birds; plant roots > beetle grubs/voles	0-6	---	~1.00 – 1.25 per ft ²	2
Aeration Features									
<i>Waterfall/Waterwall</i>	a, b	None	Birds		Key function is aeration, which supports aquatic invertebrates/fish and all their predators.	6-12	B,D	3	2
<i>Water Trough Sculpture</i>	d	E, S(Possibly watercress or similar small submerged or emergent)	Aquatic invertebrates in gravel; birds; bats		Key function is aeration, which supports aquatic invertebrates/fish and all their predators	12-18	B,D	4	3
<i>Bubble Line Aerator</i>	h,i	None	Fish		Key function is aeration, which supports aquatic invertebrates/fish and all their predators.	0-6	D	(\$549 per 100 LF) + compressor	1
<i>Water Wheel</i>	a,b,d	None	Birds		Key function is aeration, which supports aquatic invertebrates/fish and all their predators.	12-18	B,D	4	3

Notes:

- Existing Edge Types:** (a) sheet pile or timber wall; (b) concrete wall; (c) building; (d) naturalized vegetated edge; (e) riprap; (f) upland; (g) underside of bridge spans; (h) mid-channel; (i) floating walkways and docks
- Native plant species** with wildlife value: P=pollinator mix; D=upland drought tolerant; V=trailing/climbing vines and shrubs; F=facultative wetland; E=emergent; S=submersed; T=Floating Trees. See separate tables of plant names.
- Native animal species** attracted by this habitat (although it will also support other species).
- Primary food webs** supported by the habitat are listed; many other trophic pathways will exist (for example, bacterial decomposition).
- Time:** Estimated lead time to install the feature, assuming availability of funds and crew
- Potential Issues:** (A) Requires special expertise, heavy equipment, potentially a permit; (B) Requires vetting by planning team and other stakeholders; (C) seasonal constraint such as not planting in winter, etc.; (D) requires electricity; --- none
- Relative cost:** Costs are for materials only (no soft costs)
- Rank** in order of priority based on overall feasibility (difficulty, cost, other factors); 1 is most feasible.
- All floating boardwalks** and other rafts without sufficient plant roots will include skirts to provide shelter for aquatic invertebrates, tadpoles, and small fish.

Plant Palette

Instructions

The Wild Mile Framework Vision Plant Palette expands upon the “Appendix 7.4: Plant Palette”, laid out in the Chicago River Design Guidelines.

This Plant Palette has been formatted as an Excel workbook and is designed as a tool to aid in the selection of native plants for habitat restoration and native landscaping projects in the Chicago area. The “WildMileNativePlants” worksheet acts as the main repository for the plant list and associated information. Each additional worksheet allows the user to isolate specific plant lists for a particular intended use, such as attracting certain types of organisms, or being placed in a particular habitat type.

Selected References

- Wild Mile Plant List for Birds <https://www.audubon.org/native-plants/search?zipcode=60642>
- Wild Mile Plant List for Caterpillars and Butterflies <https://www.audubon.org/native-plants/search?zipcode=60642>
- Wild Mile Plant List (Nuts, Seeds, Fruits for Birds) <https://www.audubon.org/native-plants/list/3abde43f-91c4-47eb-be41-723e5b5151d2>
- <http://www.illinoiswildflowers.info/>
- Kaufman, K., J. Sayre, and K. Kaufman. 2015. Field Guide to Nature of the Midwest. Houghton Mifflin. 416 pages.
- Wilhelm, G., L. Rericha, and M. Lowther. 2017. Flora of the Chicago Region: A Floristic and Ecological Synthesis. Indiana Academy of Sciences.

Notes

¹ Plants are listed alphabetically by scientific name.

² Plants provide multiple services to numerous of animals over weeks, months, or even year-round. These columns represent a few of the dominant relationships expected in the Wild Mile area. Many more complex ecosystem services are not shown (for example, birds eating insects on plants attractive to “other herbivorous insects”).

³ Plant Habitat Groups Recommended for Wild Mile: Note that a given plant may be assigned more than one habitat code.

D Dry upland (reseeding annuals, perennials, trees for wildlife food and shelter)

E Emergent (roots in water, tops above water); provide forage, shelter, or spawning substrate for turtles, fish, frogs, toads, salamanders, or their prey.

F Facultative (tolerates wetland and upland; at river edge with occasional flooding)

P Pollinator mix (reseeding annuals, perennials, small trees specific to butterflies, moths, bees, hummingbirds)

S Submersed (entire plant under water); provides forage, shelter, or spawning substrate for turtles, fish, frogs, toads, salamanders, or their prey.

T Floating trees (small-to-medium-sized trees for planting on rafts; roots must tolerate continuous submersion)

V Trailing/climbing vines (selectively planted to soften and vegetate vertical concrete, steel, or wooden walls that cannot be removed.

⁴ Current plants (volunteer or intentionally planted) in the Wild Mile or Vicinity

Urban Rivers: Planted on floating islands (•) or observed growing along Wild Mile (+); ü indicates previous success in floating rafts; x indicates poor growth in floating rafts

LPZ Nature Boardwalk: Planted (•) and Volunteer (+) Plants

Chicago River Design Guidelines: Appendix 7.4 Plant Palette (•)

Appendix 5.2 Plant Palette

Plant Palette

Common Name	Scientific Name ¹	Provides Food, Shelter, or Breeding Material ²																				Habitat Code ³						Current Use ⁴			Special Habitat Value and Other Notes ⁵										
		Fruits, Nuts, Seeds	Caterpillars/Butterflies, Moths	Other Herbivorous Insects	Fish and Amphibians	Turtles	Cardinals & Grosbeaks	Chickadees & Titmice	Crows & Jays	Finches	Hummingbirds	Mockingbirds & Thrashers	Nuthatches	Orioles	Sparrows	Thrushes	Vireos	Waxwings	Wood Warblers	Woodpeckers	Wrens	Waterfowl (Ducks, Coot)	Semiaquatic Birds (Heron, Egret)	Muskrat	Small Mammals	D	E	F	P	S		T	V	Wild Mile (Urban Rivers)	LPZ Boardwalk	Chicago River Design Guidelines					
River Birch	<i>Betula nigra*</i>	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																				
Paper Birch	<i>Betula papyrifera</i>	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																				
Common Beggarsticks	<i>Bidens frondosa</i>																																	•	•	•					
Side-Oats Grama	<i>Bouteloua curtipendula</i>	•					•	•	•	•		•																							•						
Bluejoint	<i>Calamagrostis canadensis</i>	•																																	•	•					
Marsh Marigold	<i>Caltha palustris</i>	•	•		•	•																														✓			earliest bloom		
Bluebell-of-Scotland	<i>Campanula rotundifolia</i>										•	•		•	•		•	•																							
Bristly Sedge	<i>Carex comosa</i>	•			•	•	•	•	•	•		•																									•	•	nutrient buffer		
Frank's Sedge	<i>Carex frankii</i>	•			•	•	•	•	•	•		•																									•	•	nutrient buffer		
Common Lake Sedge	<i>Carex lacustris</i>	•			•	•	•	•	•	•		•																									•	•	nutrient buffer		
Bottlebrush Sedge	<i>Carex lurida</i>	•			•	•	•	•	•	•		•																									•	•	nutrient buffer		
Palm Sedge	<i>Carex muskingumensis</i>	•			•	•	•	•	•	•		•																									•	•	nutrient buffer		
Fox Sedge	<i>Carex stipita</i>	•			•	•	•	•	•	•		•																									•	•	nutrient buffer		
American Hornbeam	<i>Carpinus caroliniana</i>	•	•				•	•	•	•		•	•	•	•	•	•	•	•	•	•																•				
Shag-Bark Hickory	<i>Carya ovata</i>	•	•				•	•	•	•		•	•	•	•	•	•	•	•	•	•																•				
New Jersey Tea	<i>Ceanothus americanus</i>		•	•																																		•			
Common Hackberry	<i>Celtis occidentalis</i>	•	•				•	•	•			•	•	•	•	•	•	•	•	•	•																	•+			
Buttonbush	<i>Cephalanthus occidentalis</i>	•	•				•	•	•			•	•	•	•	•	•	•	•	•	•																	•	•	•	
Hornwort, Coontail	<i>Ceratophyllum demersum</i>				•	•																																			

Appendix 5.2 Plant Palette

Plant Palette

Common Name	Scientific Name ¹	Provides Food, Shelter, or Breeding Material ²																				Habitat Code ³						Current Use ⁴			Special Habitat Value and Other Notes ⁵							
		Fruits, Nuts, Seeds	Caterpillars/Butterflies, Moths	Other Herbivorous Insects	Fish and Amphibians	Turtles	Cardinals & Grosbeaks	Chickadees & Titmice	Crows & Jays	Finches	Hummingbirds	Mockingbirds & Thrashers	Nuthatches	Orioles	Sparrows	Thrushes	Vireos	Waxwings	Wood Warblers	Woodpeckers	Wrens	Waterfowl (Ducks, Coot)	Semiaquatic Birds (Heron, Egret)	Muskrat	Small Mammals	D	E	F	P	S		T	V	Wild Mile (Urban Rivers)	LPZ Boardwalk	Chicago River Design Guidelines		
Redbud	<i>Cercis canadensis</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•																		
White Turtlehead	<i>Chelone glabra</i>		•	•			•	•	•		•	•	•	•	•	•	•	•	•	•													•	•		Baltimore checkerspot butterfly host		
Woodbine	<i>Clematis virginiana</i>																																					
Large-Flower Tickseed	<i>Coreopsis grandiflora</i>	•					•	•	•	•	•	•	•	•	•	•	•	•	•	•																		
Lance-Leaf Tickseed	<i>Coreopsis lanceolata</i>	•					•	•	•	•	•	•	•	•	•	•	•	•	•	•															•			
Tall Coreopsis	<i>Coreopsis tripteris</i>	•					•	•	•	•	•	•	•	•	•	•	•	•	•	•															•	•		
Red Osier Dogwood	<i>Cornus alba</i> or <i>C. sericea</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•													✓	•+	•			
Alternate-Leaf Dogwood	<i>Cornus alternifolia</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•																		
Swamp dogwood	<i>Cornus obliqua</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•														•				
Gray Dogwood	<i>Cornus racemosa</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•																	Aggressive	
American Hazelnut	<i>Corylus americana</i>	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•															•			
Cock-Spur Hawthorn	<i>Crataegus crus-galli</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•																		
Purple Prairie Clover	<i>Dalea purpurea</i>																																			•		
White Prairie Clover	<i>Dalea</i> spp.																																			•+		
Swamp Loosetrife	<i>Decodon verticillatus</i>		•	•	•	•																															Crown must be submerged	
Illinois Tick Trefoil	<i>Desmanthus illinoensis</i>		•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•																•		
Shooting Star	<i>Dodecatheon meadia</i>	•																																				
Pale Purple-Coneflower	<i>Echinacea pallida</i>	•					•	•	•	•	•	•	•	•	•	•	•	•	•	•																	x	•
Purple-Coneflower	<i>Echinacea purpurea</i>	•					•	•	•	•	•	•	•	•	•	•	•	•	•	•																	x	•

Appendix 5.2 Plant Palette

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Common Name	Scientific Name ¹	Provides Food, Shelter, or Breeding Material ²																				Habitat Code ³						Current Use ⁴			Special Habitat Value and Other Notes ⁵							
		Fruits, Nuts, Seeds	Caterpillars/Butterflies, Moths	Other Herbivorous Insects	Fish and Amphibians	Turtles	Cardinals & Grosbeaks	Chickadees & Titmice	Crows & Jays	Finches	Hummingbirds	Mockingbirds & Thrashers	Nuthatches	Orioles	Sparrows	Thrushes	Vireos	Waxwings	Wood Warblers	Woodpeckers	Wrens	Waterfowl (Ducks, Coot)	Semiaquatic Birds (Heron, Egret)	Muskrat	Small Mammals	D	E	F	P	S		T	V	Wild Mile (Urban Rivers)	LPZ Boardwalk	Chicago River Design Guidelines		
Canada Wild Rye	<i>Elymus canadensis glaucifolius</i>			•																				•	•		•											
Rattlesnake-Master	<i>Eryngium yuccifolium</i>		•	•																					•									•			Borer moth host (federal candidate species)	
Eastern Wahoo	<i>Euonymus atropurpureus</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•	•											•	•					
Common Boneset	<i>Eupatorium perfoliatum</i>		•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•												•	•+				
Trumpetweed	<i>Eutrochium fistulosum</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•												•					
Joe Pye Weed	<i>Eutrochium maculatum</i>	•	•																														•	•				
Sweet-Scented Joe-Pye-Weed	<i>Eutrochium purpureum</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•					•								•				
American Beech	<i>Fagus grandifolia</i>	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•													•				
Queen of the Prairie ^T	<i>Filipendula rubra</i>	•																															•				threatened in Illinois	
Virginia Strawberry	<i>Fragaria virginiana</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•	•																	Aggressive
Spotted Crane's-Bill	<i>Geranium maculatum</i>	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					•												
Fowl Manna Grass	<i>Glyceria striata</i>																																		•			
Kentucky Coffee Tree	<i>Gymnocladus dioicus</i>		•								•																							•				seeds, leaves are toxic
American Witch-Hazel	<i>Hamamelis virginiana</i>	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•													•	•			Late winter pollen
Sneezeweed	<i>Helenium autumnale</i>			•																														•				
Woodland Sunflower	<i>Helianthus divaricatus</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•					•								•+				

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		Fruits, Nuts, Seeds	Caterpillars/Butterflies, Moths	Other Herbivorous Insects	Fish and Amphibians	Turtles	Cardinals & Grosbeaks	Chickadees & Titmice	Crows & Jays	Finches	Hummingbirds	Mockingbirds & Thrashers	Nuthatches	Orioles	Sparrows	Thrushes	Vireos	Waxwings	Wood Warblers	Woodpeckers	Wrens	Waterfowl (Ducks, Coot)	Semiaquatic Birds (Heron, Egret)	Muskrat	Small Mammals	D	E	F	P	S		T	V	Wild Mile (Urban Rivers)	LPZ Boardwalk	Chicago River Design Guidelines	
Northern Spicebush	<i>Lindera benzoin</i>	•	•	•			•	•	•																												
Tulip Tree	<i>Liriodendron tulipifera</i>																																			•	
Cardinal-Flower	<i>Lobelia cardinalis</i>		•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•													•	•		
Great Blue Lobelia	<i>Lobelia siphilitica</i>		•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•													✓	•	•	
Wild Lupine	<i>Lupinus perennis</i>		•																					•		•											Karner blue butterfly host (endangered)
Monkeyflower	<i>Mimulus ringens</i>		•																																•		<i>near Chelone glabra</i> for checkerspot butterfly
Wild Four-o'clock	<i>Mirabilis nyctaginea</i>		•	•							•															•											
Scarlet Beebalm	<i>Monarda didyma</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•						•								•		
Wild Bergamont	<i>Monarda fistulosa</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•						•								•		can be aggressive
Horse Mint	<i>Monarda punctata</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•						•								•		
Red Mulberry	<i>Morus rubra</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•			•											+		dioecious; do not plant invasive white mulberry (<i>M. alba</i>)
Water Milfoil	<i>Myriophyllum sibiricum</i>				•	•																•	•	•													<i>M. spicatum</i> is not native
Slender Naiad	<i>Najas flexilis</i>				•	•																•	•	•													

Appendix 5.2 Plant Palette

Plant Palette

Common Name	Scientific Name ¹	Provides Food, Shelter, or Breeding Material ²																					Habitat Code ³						Current Use ⁴			Special Habitat Value and Other Notes ⁵							
		Fruits, Nuts, Seeds	Caterpillars/Butterflies, Moths	Other Herbivorous Insects	Fish and Amphibians	Turtles	Cardinals & Grosbeaks	Chickadees & Titmice	Crows & Jays	Finches	Hummingbirds	Mockingbirds & Thrashers	Nuthatches	Orioles	Sparrows	Thrushes	Vireos	Waxwings	Wood Warblers	Woodpeckers	Wrens	Waterfowl (Ducks, Coot)	Semiaquatic Birds (Heron, Egret)	Muskrat	Small Mammals	D	E	F	P	S	T		V	Wild Mile (Urban Rivers)	LPZ Boardwalk	Chicago River Design Guidelines			
Eastern cottonwood	<i>Populus deltoides</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•																	stabilize riverbank	
Quaking Aspen	<i>Populus tremuloides</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•																		
Common Pondweed	<i>Potamogeton natans</i>				•	•																•	•	•												•			
Long-leaved Pondweed	<i>Potamogeton nodosus</i>				•	•																•	•	•												•			
American Plum	<i>Prunus americana</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•					•										•			
Great Lakes Sand Cherry	<i>Prunus pumila</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•					•													
Black Cherry	<i>Prunus serotina</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•																•		
Choke Cherry	<i>Prunus virginiana</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•																		
Narrow-Leaf Mountain-Mint	<i>Pycnanthemum tenuifolium</i>	•	•	•			•	•	•	•	•	•	•			•	•	•	•	•																•			
American Mountain-Mint	<i>Pycnanthemum virginianum</i>		•	•							•	•	•			•	•	•	•	•																•	•	•	
Northern White Oak	<i>Quercus alba</i>		•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																		
Swamp White Oak	<i>Quercus bicolor</i>	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																•	•	
Bur Oak	<i>Quercus macrocarpa</i>	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																•	•	
Chinkapin Oak	<i>Quercus muehlenbergii</i>	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																•		
Pin Oak	<i>Quercus palustris</i>	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																		
Northern Red Oak	<i>Quercus rubra</i>	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																	•	
Black Oak	<i>Quercus velutina</i>	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																	•	
Swamp Buttercup	<i>Ranunculus septentrionalis</i>		•	•																																		wet edge	
Yellow Water Crowfoot	<i>Ranunculus flabellaris</i>		•	•	•	•																																	

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		Fruits, Nuts, Seeds	Caterpillars/Butterflies,Moths	Other Herbivorous Insects	Fish and Amphibians	Turtles	Cardinals & Grosbeaks	Chickadees & Titmice	Crows & Jays	Finches	Hummingbirds	Mockingbirds & Thrashers	Nuthatches	Orioles	Sparrows	Thrushes	Vireos	Waxwings	Wood Warblers	Woodpeckers	Wrens	Waterfowl (Ducks, Coot)	Semiaquatic Birds (Heron, Egret)	Muskrat	Small Mammals	D	E	F	P	S		T	V	Wild Mile (Urban Rivers)	LPZ Boardwalk	Chicago River Design Guidelines				
White Water Crowfoot	<i>Ranunculus longirostris</i>		•	•	•	•																•		•																
Gray-Head Mexican-Hat	<i>Ratibida pinnata</i>		•	•							•		•	•		•	•	•	•	•						•									•					
Fragrant Sumac	<i>Rhus aromatica</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•					•										•		5-star for rooftops		
Smooth Sumac	<i>Rhus glabra</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•					•														
Stag-Horn Sumac	<i>Rhus typhina</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•					•										•				
Golden Currant	<i>Ribes aureum</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•	•					•														
Wild Climbing Rose	<i>Rosa setigera</i>		•	•							•	•																•						•						
Black Raspberry	<i>Rubus occidentalis</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•	•					•														
Black-Eyed-Susan	<i>Rudbeckia hirta</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•					•									•	•				
Green-Head Coneflower	<i>Rudbeckia laciniata, others</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•	•							•						•	•					
Common Arrowhead	<i>Sagittaria latifolia</i>	•	•			•				•												•		•			•									•				
Pussy Willow	<i>Salix discolor</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•																✓			
Sandbar Willow	<i>Salix interior</i>		•	•		•					•	•	•	•	•	•	•	•	•	•	•	•		•													•		can be aggressive	
Black Willow	<i>Salix nigra</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•																•			
American Black Elderberry	<i>Sambucus nigra ssp. canadensis</i>	•									•																									•	•			
Sassafras	<i>Sassafras albidum</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•	•																•			
Lizard's Tail	<i>Saururus cernuus</i>				•	•																														✓			wood duck	
Little Bluestem	<i>Schizachyrium scoparium</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•	•					•											•	•		
Hardstemmed Bulrush	<i>Schoenoplectus acutus</i>	•	•	•	•						•	•	•	•	•	•	•	•	•	•	•	•	•	•												•	•	•		
Dark Green Rush	<i>Scirpus atrovirens</i>	•	•	•	•						•	•	•	•	•	•	•	•	•	•	•	•	•	•												•	•	•		
River Bulrush	<i>Scirpus fluviatilis</i>	•	•	•	•						•	•	•	•	•	•	•	•	•	•	•	•	•	•													•			

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New England American-Aster	<i>Symphotrichum (Aster) novae-angliae</i> and other species	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•													•	•	•				aggressive		
Eastern Arborvitae	<i>Thuja occidentalis</i>		•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•															•						
American Basswood	<i>Tilia americana</i>	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																					
Common Spiderwort	<i>Tradescantia ohiensis</i>					•																		•														•				
American Elm	<i>Ulmus americana</i>	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																+	•+		stabilize riverbank		
Lowbush Blueberry	<i>Vaccinium angustifolium</i>	•			•		•	•			•		•		•		•		•			•															•					
Highbush Blueberry ^E	<i>Vaccinium corymbosum</i>	•	•				•	•	•		•	•	•	•	•	•	•	•	•	•	•																					
Eel Grass	<i>Vallisneria americana</i>				•	•																	•	•	•													•		filters water		
Blue Vervain	<i>Verbena hastata</i>		•	•			•																			•											•	•	•	drought resistant		
Hoary vervain	<i>Verbena stricta</i>		•	•							•															•																
Common Ironweed	<i>Vernonia fasciculata</i>		•	•							•		•	•		•	•	•	•	•	•																•	•	•			
Missouri Ironweed	<i>Vernonia missurica</i>		•	•							•		•	•		•	•	•	•	•	•																					
Maple-Leaf Arrow-Wood	<i>Viburnum acerifolium</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•																					
Nanny-Berry	<i>Viburnum lentago</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•																		•	•	red admiral	
Riverbank Grape	<i>Vitis riparia</i>	•	•	•			•	•	•		•	•	•	•	•	•	•	•	•	•	•																			•		giant swallowtail
Prickly Ash	<i>Zanthoxylum americanum</i>		•				•	•	•		•	•	•	•	•	•	•	•	•	•	•	•		•																		
Wild Rice	<i>Zizania aquatica, Z. palustris*</i>	•	•																																						to 3 ft deep	

Appendix 5.3

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